

**To:** Dorka, Lilian[Dorka.Lilian@epa.gov]  
**From:** Edwards, Crystal  
**Sent:** Mon 6/27/2016 7:41:53 PM  
**Subject:** FW: Need OW's Assistance on the NC DEQ Case Involving Swine Feeding Operation  
2015 Heaney, et al. (Wing) fecal Swine waste.pdf  
ATT00001.htm

Hi,

I cannot open the attachments, can you resend?

*Crystal N. Edwards*

*United States Environmental Protection Agency*

*IO - Office of Water*

*William Jefferson Clinton East Building*

*Room 3223B*

*(202)564-1661*

**From:** Shapiro, Mike  
**Sent:** Saturday, June 25, 2016 10:03 PM  
**To:** Edwards, Crystal <Edwards.Crystal@epa.gov>  
**Subject:** Fwd: Need OW's Assistance on the NC DEQ Case Involving Swine Feeding Operation

Crystal,

Please set up a meeting with Lilian Dorka on this subject for this week. In addition to the people

copied on Lilian's email, invitees should include Andrew Sawyers, Deborah Nagle, Brian Frazier, Allison Weideman. Attach Lillian's email and the attachments to the invite.

Thanks.

Mike

Sent from my iPhone

Begin forwarded message:

**From:** "Dorka, Lilian" <[Dorka.Lilian@epa.gov](mailto:Dorka.Lilian@epa.gov)>  
**To:** "Shapiro, Mike" <[Shapiro.Mike@epa.gov](mailto:Shapiro.Mike@epa.gov)>  
**Cc:** "Simons, Vicki" <[Simons.Vicki@epa.gov](mailto:Simons.Vicki@epa.gov)>, "Rhodes, Julia" <[Rhodes.Julia@epa.gov](mailto:Rhodes.Julia@epa.gov)>, "O'Lone, Mary" <[OLone.Mary@epa.gov](mailto:OLone.Mary@epa.gov)>, "Johnson, Johahna" <[Johnson.Johahna@epa.gov](mailto:Johnson.Johahna@epa.gov)>, "Farrell, Ericka" <[Farrell.Ericka@epa.gov](mailto:Farrell.Ericka@epa.gov)>, "Covington, Jeryl" <[Covington.Jeryl@epa.gov](mailto:Covington.Jeryl@epa.gov)>, "Bachle, Laura" <[Bachle.Laura@epa.gov](mailto:Bachle.Laura@epa.gov)>, "Packard, Elise" <[Packard.Elise@epa.gov](mailto:Packard.Elise@epa.gov)>  
**Subject:** Need OW's Assistance on the NC DEQ Case Involving Swine Feeding Operation

Hello Mike,

We would very much appreciate your help in setting up a meeting for next week to discuss the Title VI investigation of the REACH complaint regarding NC DEQ's swine waste general permit program.

I have attached two recent studies that describe monitoring data showing high levels of swine fecal matter in NC waterbodies near swine CAFOs. OCR will also be consulting with ORD on the issue of whether these studies should be given due weight & OCR can rely on their findings in its investigation.

We would like to explore with OW how OCR might go about determining what are the impacts to people when surface water and groundwater are contaminated by pollution from

swine operations and how OCR might go about determining who is the adversely impacted population.

OCR would also like to discuss with OW whether these surface water studies can be relied upon to say anything more broadly about waterbodies near CAFOs where water samples were not drawn and how far impacts (and impacted populations) from swine operations and/or sampling locations might still exist.

## **Ex. 5 - Deliberative Process**

Also, we are wondering if OW has any information about follow up NC DEQ might be doing as a result of the 2015 USGS study & the Task Force formed in early 2015 to examine nutrient pollution from animal operations, especially those operations that have the potential to impact private drinking water wells mentioned on NC DEQ's website.

Could you please let me know who you would like to involve in a meeting to discuss these issues and we can follow up on scheduling? As always, thanks so much for your assistance and support! Lilian

**Case Summary:** REACH

**Case Number:** 11R-14-R4

**Case Accepted:** February 20, 2015

**Complainant:** Earthjustice on behalf of North Carolina Environmental Justice Network,  
Rural Empowerment Association for Community Help (REACH), and  
Waterkeeper Alliance, Inc.

**Recipient:** North Carolina Department of the Environment and Natural Resources (DENR)

**Team makeup:** Case Manager: Jeryl Covington and Ericka Farrell  
OGC Counsel: Mary O'Lone and Anthony Moffa

**Accepted Allegations:**

North Carolina DENR's regulation of swine feeding operations discriminates against African Americans, Latinos, and Native Americans on the basis of race and national origin in neighboring counties and violates Title VI and EPA's implementing regulations.

**History of Investigation:**

**February 2015:** OCR investigated whether the complaint could be administrative closed without more inquiry/investigation warranted.

**March 2015:** OCR investigated whether there were any relevant precedent that if applied would result in administrative closure (*e.g.*, changed circumstances, withdrawal of permit, permit modification that reduces impacts or emissions).

ADR is offered to both complainants and recipient; both parties agree to explore ADR.

**March 6, 2015:** Tolling of complaint begins.

**April 2015:** The Office of Water and the Office of Air and Radiation are requested to provide technical assistance in reviewing some of the complainant's exhibits, research, and data.

**September 2015:** Complainants and recipient agree on selection of a mediator and enter into ADR.

**Preliminary Findings:**

No preliminary findings have been developed with respect to addressing the accepted allegation.

**Proposed Path Forward:**

Contracts for the mediator have been executed and both the complainant and recipient are participating in ADR.

OCR will proposed information resolution to resolve the complaint if ADR is not successful.

**To:** Golightly-Howell, Velveta[Golightly-Howell.Velveta@epa.gov]  
**Cc:** Dorka, Lilian[Dorka.Lilian@epa.gov]; Wooden-Aguilar, Helena[Wooden-Aguilar.Helena@epa.gov]; Rhodes, Julia[Rhodes.Julia@epa.gov]; Packard, Elise[Packard.Elise@epa.gov]; Hall, William[Hall.William@epa.gov]  
**From:** O'Lone, Mary  
**Sent:** Thur 1/14/2016 11:00:46 PM  
**Subject:** draft response to the Pork Council on request to intervene  
[draft OCR response to Pork Council Letter 1-14-2016.docx](#)

Velveta-

Here is a draft response to the Pork Council, et al. Will Hall & Julia have reviewed it.

Rather than prepare a separate answer to Earthjustice, my thought was you could just cc Earthjustice and NC DEQ on this letter. Pork Council ccd them on their letters to us.

Thanks, Mary

Mary O'Lone

Civil Rights and Finance Law Office

Office of General Counsel

US EPA

1200 Pennsylvania Avenue, NW

Washington, DC 20460

(202) 564-4992

**EPA**

**Moderator: Jonathan Stein**  
**May 12, 2016**  
**11:05 a.m. ET**

Operator: This is Conference Ex. 6 - Personal Privacy

Conference record has joined the conference.

Female: Hello?

(Jill Johnston): Hello. This is (Jill Johnston).

Female: Hi (Dr. Johnston). Is Marianne on the line yet?

Mariane Engelman Lado: OK, you know what? We were mute. My apologies. So this is Mariane Engelman Lado from Earthjustice and I'm here with three colleagues and I'll let them introduce themselves.

Alexis Andiman: This is Alexis Andiman, also Earthjustice.

Brent Ducharme: Brent Ducharme from the UNC Center for Civil Rights.

Elizabeth Haddix: And Elizabeth Haddix, also from the Center for Civil Rights.

Female: Hi there. Who's there at EPA?

Ericka Farrell: OK. We got Ericka Farrell from OCR Title VI Office.

Jeryl Covington: Jeryl Covington from OCR Title VI Office.

Mary O'Loan: This is Mary O'Loan. I'm from the Office of General Counsel.

(Johanna Johnson): Hi. This is (Johanna Johnson) also from the Office of General Counsel.

Ericka Farrell: Hi there. Thank you. OK. Good afternoon. Again, this is Ericka Farrell from the Office of Civil Rights Environmental Protection Agency in Washington, D.C. and thank you for taking the time to talk with us. And please be aware that this interview Dr. (Jill Johnston) is being recorded. And, are there any objections to recording this interview?

(Jill Johnston): No.

Female: Dr. Johnston, do you have any objections.

(Jill Johnston): No I guess.

Ericka Farrell: OK. Thank you. And as you know, your August 2014 study was submitted to OCR to alive (upon) in this investigation. And so whether North Carolina, Department of Environmental Quality Regulations that's (might) bidding operations, discriminate against African-Americans, Latinos, and Native Americans on the basis of race and national origin in neighboring counties and violation of Title VI and EPAs implementing regulations.

And today we plan to ask some – ask you some fundamental question. I'm sorry, foundational questions, regarding the study in order for the OCR to determine whether we can rely on this study for our investigation. And in doing so, we are trying to understand what issues and arguments may be raise in opposition to your study. And we may need to ask you further questions at a later date.

And as we get started, we're going to start right now, Dr. Johnston with just some basic background questions. And can you please state with the record your name.

Mariane Engelman Lado: I'm sorry. Ericka – Ericka, if I can just interrupt you for a second. I just want to make sure, there were two studies that Dr. (Wayne) and Dr. Johnston did conducted and then we submitted. One was the 2014 which you mentioned and the other was the revise version that's dated that it was exhibit 12 to submission earlier this year. And it was dated October 19th, 2015 and it's based on that current set of (hub) facilities that are under the general (permit). I just want to make sure both are in front of you.

Mary O'Loan: Well Marianne, the other one is not. The second only update. That's going to be one of our question. I'm sorry. This is Mary O'Loan. That was going to be one of our questions. Jeryl is now looking to see if we have it in our record.

(Gerald Cadington): Right. As if Exhibit 12, that's the decoration by (Jessie May Ringen).

(Jill Johnston): No. She sent on something –

Ericka Farrell: So Jeryl, is not Exhibit 12 to the complaint. It's attachment 12 to a subsequent submission that we made in 2016 that contains (Steve Lings) declaration and it contains the revision of the study.

Mary O'Loan: What's the date of that because they're think – this is Mary again.

(Jill Johnston): OK.

Mariane Engelman Lado: They're faking their head like OCR doesn't have it. April as well as, you did received it. I'm certain of that. April 12, 2016. And it had – and this is attachment 12. And it's important, you know, that we'll get into the methodologies and all that.

But you know, we wanted to make sure that there was a study of the actual data under the new permit. And these provide study is based on that, the data under the new permit.

(Jill Johnston): OK.



Mariane Engelman Lado: And we should go ahead even if you can't find it, you can ask questions based on the first study and we can resume it another time. That will still be helpful I'm sure. But it's important that you have that second study.

Mary O'Loan: (Marianne) – this is Mary again. Are you at your desk? I mean can e-mail it to Jeryl?

Mariane Engelman Lado: Yes. E-mail it to all of us so that at least we know we have it. They'll go back and look for it. But I just want to make sure that we do get it today.

Ericka Farrell: But I also agree with you. Because I think methodology change from the report submitted with the complaint today. The questions would be the same. It's just a matter of the conclusions and results, right? That's what would have change potentially.

Mariane Engelman Lado: That's right. I mean, I'll let Dr. Johnston speak and she'll answer specific questions about that. But the basic methodology is the same – there was – there may have been some twists that when you focused on it, she can answer questions about. So Alexis is forwarding it and – who's – so who's going to – if they look for an e-mail who would it be from?

Alexis Andiman: (There's) just one e-mail I can send it to you and I'll just forward it to you right now.

Mariane Engelman Lado: Who should we send that for?

Alexis Andiman: Covington.jeryl.

Mariane Engelman Lado: OK. Got that.

Alexis Andiman: @epa.gov.

Mariane Engelman Lado: We do not – yes, we do not received that. I don't have a copy of that.

Female: Hi. So back to the beginning.

Ericka Farrell: Yes. For the record, Dr. Johnston, can you please provide your full name?

(Jill Johnston): Jill Elizabeth Johnston.

Ericka Farrell: And please provider your professional contact information specifically. Your office address and office telephone number and office e-mail.

(Jill Johnston): Yes. It's 2001 North Soto Street, Los Angeles, California 90089. My office phone number is 323-442-1099 and my e-mail is jillj@usc.edu.

Ericka Farrell: Thank you. And as we begin, can you also state what your current professional position is?

(Jill Johnston): An Assistant Professor of Preventive Medicine in the Division of Environmental Health at the University of Southern California.

Ericka Farrell: OK. And as we begin, also, can you give us what your professional background is in relation to the studies that we're going to be talking about today.

(Jill Johnston): Yes. I have a PhD in Environmental Science and Engineering with the minor and public policy from the University of North Carolina at Chapel Hill and also completed a Post Doctoral Fellowship and Environmental Epidemiology also at UNC.

Ericka Farrell: OK. And now, I'm going to (time) this over to Mary.

Mary O'Loan: This is Mary O'Loan. Dr. Johnston, Marianne's probably explain to you one of the reasons that we wanted to speak with you. And after we go through the questions that we have, you can see why it was very good idea for us to speak

to you first. Because what we wanted to do when Marianne **Ex. 6 - Personal Privacy** it.

**Ex. 6 - Personal Privacy** if we had a chance to speak with him in the future, we wanted to try to limit the questions that you know, we would you know, we would be asking him.

So, we really appreciate you taking yourself available to answer these questions with us. Because I think, there a lot of them and a lot it explain from the fact that don't have a particular background on this. So, we're going to ask you probably some very basic questions from your perspective.

(Jill Johnston): OK.

Mary O'Loan: But the first one is your role in the – we're going to talk first about the 2014 study. And your role in that study.

(Jill Johnston): Yes, so I collected the data and conducted the analysis and consultation with Dr. (Ling) and created that the table and figures n this report and help with drafting the tax. But Dr. (Ling) had the lead on writing the text for this.

Mary O'Loan: OK. With this study peer reviews or did it go through any kind of even in the formal internal sort of peer review?

(Jill Johnston): There was discussion with other faculty within our department at University of North Carolina but it was not submitted or considered under scientific peer review process for our journal.

Mary O'Loan: OK. And we might as well ask the update that was done. Is it similar?

(Jill Johnston): Yes, (inaudible) often not submitted or has been under a scientific peer review.

Mary O'Loan: OK. Do you – and Marianne I don't know if this is – this is may be a question for you. I don't know if it's for you or Dr. Johnston but was the – was the 2014 study submitted to North Carolina DEQ?

(Jill Johnston): No.

Mary O'Loan: OK. Or do you know if they're aware of it?

(Jill Johnston): Not to my knowledge.

Mary O'Loan: OK. All right. Now we're going to get into sort of a knots and bolts of the questions that we had about the study itself. So, Dr. Johnston, do you know – can you explain why three miles was chosen as the distance?

(Jill Johnston): Yes, so we based that on a few (pay existing) peer reviewed scientific studies. One is by (May Adelli) from 2006 that specifically looked at asthma prevalent in Medical school students in North Carolina and found that medicals are there a few mile (radius) of an industrial hub operation had higher prevalent of asthma, another asthma related symptoms, some type of students who went to school further away.

Also some (dispersion) modeling of hydrogen sulfide conducted of a large (hub case) in Iowa show that hydrogen sulfide can travel up to this 6 kilometers which is a little three miles from the facility itself and impact (air) quality in that radius. And there was also sort of two other studies that looked at, the relationship between hydrogen sulfide protections and (inaudible) one from North Carolina and one from Iowa.

The one from North Carolina being by (Getry) in 2016 and then by (inaudible) in 2013 that used 5 kilometers as their distance.

Mary O'Loan: OK. Thanks. Did you by any chance look at other distances or analyze other distances that weren't discussed in the 2014 report.

(Jill Johnston): Yes. So we did not. We considered different criteria for inclusion of senses blocks, you know, whether any part was within three miles or whether they're (centroid). But we didn't have a capacity that compare our three mile results to two miles or one mile or refresh some other criteria.

- Mary O'Loan: OK. How was – so (there's) the question. How is the (block centroid) determined? Was it be graphic, vocation or?
- (Jill Johnston): Yes. So it's within our GIS software with you know, the sentence lock data from the U.S. and to 2010. And then, yes, the program assigned the (centroid).
- Mary O'Loan: So it assigned that based on the geographic center of the block not something to do with the population.
- (Jill Johnston): It had nothing to do with population, yes. It had to do with what's (facial) definition of where the (centroid) would be based on the shape of the block.
- Mary O'Loan: OK. For the study area, 19 counties were excluded that didn't have an IHO and didn't boarder one. Why was it important to exclude those 19?
- (Jill Johnston): We thought it's appropriate to consider population that were potentially at risk for being near an industrial hub operation. And so, just the geography and (mountainous) nature of Western North Carolina, you know, as well as highly urbanized areas. Or just not locations where (capos) would be sided. So we didn't consider those population at risk and that did not include them in the study area for this analysis.
- Jeryl Covington: Yes. This is Jeryl Covington. You do have one question on that one. You all were also excluding the counties that were adjacent to and had no – please give – can you explain the basis for that exclusion as well to the 19th county in the Western North Carolina area.
- (Jill Johnston): So it's with the counties where they had any two criteria. One is they had no (capo) in that border and no adjacent county for them had any (capo). And it's largely because these areas are highly mountainous and don't have the facilities or that the land maps that you need for the liquid waste distribution system. For a (capo) to be permitted there.
- Jeryl Covington: OK. All right.

Mary O'Loan: This is Mary again. What is the – can you explain the adjustment for morality and is that the same thing as adjusting for population density. And then why was that appropriate?

(Jill Johnston): Yes. So – yes. The – so the content of reality we measured it by population density for each (inaudible) block. And we find this – and so we present those to unadjusted and the adjusted values in the report. But find that this is important because the land availability and also typically the price of land is highly influence by the population density in the amount of land that is available.

And also different (inaudible) of which racial or ethnic group within which areas can be – can influence population density as well. So that's why we – we chose that content of both the marker of kind of the economics and the land availability to adjust for in the model.

Jeryl Covington: This is Jeryl again, could you – could you clarify the land availability. I wasn't quite clear on that explanation.

(Jill Johnston): OK. Yes, so, I mean. As I mentioned before, now do you need the barns to how is the animals but then also you know, field around it where the waste that's spray. So an area with the high population density, you're not going to have – it's not necessarily going to be appropriate to have the space availability to put a (capo) on those areas or to put as many.

And I sort of – it's basically, you know, the land available for agriculture can basically correlated with the population density of that area.

Mary O'Loan: But that was – OK. This is Mary again. Because I – you can't see me but my brain is cranking very slowly. But, so this is not because you were excluding these areas because you've already excluded the 19 counties that have nothing. Now you're doing an adjustment to say, to basically say that OK, in the – to find that the (sparsely) populate – maybe we'll get into when we get back into the table in explaining those. But I'm trying to understand that the fundamental points of why you did it.

And it is to say that these things tend to go in really rural areas. And you know, as we look at areas to get more and more rural, we also see, you know, where they are. The amounts of (inaudible) there are and a change in the demographics. That's why you're doing the morality piece to it?

(Jill Johnston): Yes. And it's sort of a contact of, I guess they're familiar with confounding and other epidemiological model. So we felt that population density is a very important factor that influences deciding of (inaudible) (capos). And so, that's why we presented sort of adopted models to acknowledge that fact that population density and sort of a proxy for both the cost of land and the, sort of amount of land that would be available for either cultural activity was important to consider when we're looking at the association between race and committing of how (capos).

Mariane Engelman Lado: This is Marianne. Can I jump in for a sec. Stage 4 of the 2014 reports. Dr. Johnston, you have – if there's a sentence there that says, by adjusting for populations density or morality, we compare racial vulnerability that IHOs for racial groups within each level of morality to –

(Jill Johnston): Right.

Mariane Engelman Lado: I think that's what you're getting at. Can you explain that a little bit more that is – so it's not taking away the family ins of (racist) testing for it by looking within each level were up. Or I can even say the word, morality. Is there still salience of race towards this outcome?

(Jill Johnston): That is correct and we try to provide an example here that perhaps a little bit more intuitive. But for example, like when you're looking at mortality rate and you want to compare across two populations. It's important to account for age because of risk of mortality changes with different age groups.

And so at the age structure of the two populations aren't equal, you want to address for those factors or account for those factors so that you can look with any to age group. So essentially, we're trying to account for the same thing

here that is not (inaudible) that perhaps your risk for a (capo) being permitted nearby. You – is different depending on the population density of the area where you leave.

And so by including that adjustment, we can account for those differences across different areas in North Carolina.

Mariane Engelman Lado: OK. Is everybody good on that right now? OK.

Mary O'Loan: OK. Can you explain the study state live weight calculation? So we're on page 4 again of the 2014 study. And how did you determine whether the study state live weight of an IHO should be included and I – this is – it's not about the calculation of the city state live weight but more – how you captured a particular IHO. And I sort to have two visual images in my mind. And one has – you take the (centroid) of a block. And you draw a circle three miles out, right?

(Jill Johnston): OK.

Mary O'Loan: This is what I'm thinking happened. And the latitude and longitude of any IHO that still within that three mile circle is what you counted. Is that right?

(Jill Johnston): Correct. And it was some, but yes. We started the (centroid) of each block. And did exactly what you describe.

Mary O'Loan: Because, well we were trying to figure out whether there was anything – whether it was like if you had, instead you were pulling. If there were a block that (startle) the three mile circle, you know, you would pull an IHO that might be sitting in that block. Do you know what I mean? But that's not what you did. You just – it was if the latitude and longitude of that (cape) of fit in the circle. Then it was added to the total weight.

(Jill Johnston): Yes. So in essence, each (capo) was not counted one time. It could be counted multiple times depending on how many blocks it was within three miles from.



Mariane Engelman Lado: This is Mariane Engelman Lado again. Dr. Johnston, if there was a (capo) that startled those that three mile radius or within one radius and another radius, how would you handle it?

(Jill Johnston): Yes. So we were reading on analysis is the sense of block. And so for each senses block sort of independent or the other ones, we would draw to three mile radius and count up every (capo) that sell within the three miles. And then we would go to the next, you know, the adjacent block to it. Draw a circle in count of every (capo) within three miles of that block.

And so, the son of the (stead) state live weight, could be counted, you know, if not, we didn't assigned each (capo) only to one block. Reassign each block to the nearby (capos). Either that help explain it?

Mariane Engelman Lado: I think so.

Mary O'Loan: Well, so then the next, I guess my next question is when you look at the people. So the latitude and longitude has to be within third, three mile circle. And then when you count the people, how are you doing that?

(Jill Johnston): So the people aren't counted more than once. We include the population of each fences block. So, all the – there are the hundred people living in the senses block. They're all assigned the same study state live weight based on what the three mile radius.

Mary O'Loan: OK. OK.

(Jill Johnston): So people are not counted more than once in the model.

Mary O'Loan: OK. I get it. Anybody else have any question about study state live weight? All right.

OK, the next question was about you know, asking you about the update. Did the update happened but we know that it did. So, we will skip that one and come back to it at a later date probably.

(Jill Johnston): OK.

Mary O'Loan: So on page 4, you describe how race in ethnicity was categorized. But then when we look at the complaint, we went – and we look at page – where is that? 106. 106.

OK, on page – I don't know what – 35 of the complaint. It also talks about the characterization in particular of African-Americans. And the description seemed inconsistent to us. And it had to do with (inaudible) people who could identify themselves as black and Hispanic.

And so, we were wondering if these two – if the state (meant) about it on page 4 of the 2014 report and put note 106 on page 35 of the complaint, whether they were inconsistent or weren't inconsistent or you know, like how we should be interpreting this.

(Jill Johnston): I mean, so I can describe the definition we used in the report and then maybe Marianne can talk about the footnote. But we used sort of one other race category. And so, our definition of race was anyone who identified it – identify themselves as African-Americans are black list or without any other race or ethnicity.

So if they identified as black and Hispanic, it would be categorized in this black group. So that's how we did it for the purposes of this –

Mary O'Loan: OK. I'm sorry Dr. Johnston in – on page four it says black. It's people who identify themselves as African American or Black with or without any other race. Is that right? I thought just heard only without – with.

(Jill Johnston): Yes.

Mary O'Loan: I'm sorry without.

(Jill Johnston): No, I'm sorry for the fact that I misstated. No, I meant – yes, (inaudible) written here is correct. So it's –

Mary O'Loan: And then footnote 106 says the term African American here in core sponsors turn black as used in the report it – the black racial category referred to those who identified as African American – that's probably a typo. It should be with or without.

(Jill Johnston): OK, all right.

(Johanna Johnson): Hi this is (Johanna Johnson). I just one quick follow up question. And that's with regards to individual to identify themselves as Black Hispanic. You indicated they will be categorized in the black category. But would they also appear in the Hispanic category as well?

(Jill Johnston): Yes, So I would note one of the table these terms but the definitions of Black, Hispanic and America Indian. We do not use mutually exclusive terms or mutually exclusive categories. So people when we do the race specific analysis they could be counted with more than one race based on what they identified on their (inaudible) forms.

Mary O'Loan: OK, any other –

(Jill Johnston): But the category of non Hispanic white and people of color. Those are mutually exclusive. So there's no one that overlap, you know, which is what we use for our primary analysis.

Mary O'Loan: Right. Anything else?

(Johanna Johnson): No.

Mary O'Loan: OK. Now what we'd like to and (Mary Anne) maybe you can help in the updates that was (inaudible). You know it is just the numbers that have changed? Well let me explain what I'm going to do here.

What we wanted to do was walk through in a study. Each of the tables – each of the figures and table to make sure we understand what they say. and then we wanted to look at them – look at how they're characterized in the complaint because one of the things that we have to do as discussed it internally is be able to communicate in layman's terms how these – what these findings are. So we want to make sure that we understand it and we can see that, you know, the complaint takes, you know, right up something.

And so we wanted to see – we wanted to make sure that, you know, within study or I mean what within the complaint could, you know, use that as our layman's discussions. That we wanted to cross walk these things but also go through them and make sure that we actually understand, you know, what the study itself is saying. OK.

Mariane Engelman Lado: Yes, let me give some context and I don't know if this will be helpful or not but let's try. First of all Elizabeth reminded me and we will double check. When we filled the complaint we probably sent a copy to (Inaudible) are now DEQ.

There were some confidential documents in there. So we didn't send the whole thing. And we'll have to go back and check our records and let you know what we sent and what we didn't. I don't see any reason – I mean this was not a confidential document. But I just don't remember.

So and I'm not sitting in front of the, you know, my computer where I can pull up exactly what was sent to DEQ. So we'll do that and we'll get back to you on that. In terms of the difference let me tell you our thinking and methodology as complainants. And then Dr. Johnston can say a little bit about what might have been different if you remember Dr. Johnston.

So we obviously wanted to get even though the 180 day requirement is waivable we wanted to get a complete set of allegations into OCR within 180 days. So we wanted to do – just a submit a disproportionality analysis that was rigorous within that 180 day timeline. The challenge is the 180 day timeline the data – I think it wasn't even up on the Website for DEQ then DNR. But it was and not with sufficient notice to be able to ask Dr. (Ling) and Dr. Johnston to do an analysis.

So talking to – knowing that there wasn't going to be that much difference in the location of these facilities for technical reasons which you maybe aware of that any new facility in the State of North Carolina have to use new technologies. And it's only pre-existing facilities that haven't expanded that under the state the general permit. So while some facilities may drop out of the list there are not going to be any new facilities on the list.

And there's kind of disincentive to drop out. So we knew there wouldn't be that much change. So we did ask Dr. (Ling) and Dr. Johnston if it made sense to do the disparities analysis first on the list that existed at the time right before we filed the complaint which is what they did with the – and then and they could refine their methodology by doing that building on the work that they had previously done on disproportionality.

And then once – once we had the list and I should say and Dr. Johnston you can talk more about this. There was a lot of work that went into that. There was a lot of clean up of the data. The – the geographic locations often weren't right.

There was just a lot of work that went into working with that list. And then they were able to provide the 2014 disproportionality analysis. But with the full intent that once we had the – the list of facilities that had been approved for operation under the challenge firm and are under the new permit they would then conduct the same analysis.

But I say the same kind of in quotes because if there were any – any lessons learned or any tweaks that the new data provided that they would – they were

free to kind of have the best analysis possible. So, you know, again Dr. Johnston can refresh my memory to precisely what tweaks there may have been. But I don't want to state that the only difference is in the results because there was an opportunity to have a fresh look at the methodology – fundamentally the methodology was similar. But they were able to tweak the way they were doing things in order to do the best study possible.

(Jill Johnston): Yes, so the major difference is there were 2,055 cases included in the 2014 analysis. And then for the updated analysis based on the permit list there were 2029. So, you know, that was a major change for facilities that do not undergo permitting or ones that where their permit expired and we do have any evidence that they were going to like renew their permit.

What we tried to do in the 2014 analysis was use the best available knowledge we had about which – which tape off (inaudible) to include. So we did get some additional information from the state about which ones were not operational and which ones may have had permits but had zero animals housed there. So we did make some adjustment in this first paper to try to anticipate what would be included under the general permits.

But in terms of the methodology the analysis and the tables provided are the same. We changed the figures a little bit to try to make them look nicer and we also – there were 20 western counties excluded and that was using the same criteria as we did before. But there was just one additional county that met these criteria.

Mary O'Loan: OK. Yes, OK. Well that was a good explanation. So can we now turn to the – we're going to work from the 2014 (inaudible) you know what we have in front of us. And maybe when you made the changes some of our questions will be answered.

But I just – I wanted to start on page 11 just with figure 1. And I have no questions about that. Now I'm moving on to figure 2.

Mariane Engelman Lado: OK.

Mary O'Loan: OK. It says the percent of population living within three miles of an IHO in relation to the percent of people of color. Is that the percent of the population in the green study area or the –

Mariane Engelman Lado: Yes, so all of the data and all the table and figures provided here are from the study area. So figure 3. So in the complaint figure 3 is described on page 35 in paragraph 133. I should (inaudible).

And I guess the – what were asking you Dr. Johnston is well I guess do you agree that this statements states what your study shows and what that figure shows I guess?

(Jill Johnston): Can you read the statement please?

Mariane Engelman Lado: You don't have it? I'm sorry. It says as shown in the following figure which depicts the relationship of industrial swine facilities to the racial and ethnic composition of North Carolina swine facilities are clustered in communities of color.

(Jill Johnston): Yes, I would agree with that statement.

Mary O'Loan: OK – flipping.

(Jill Johnston): And now just to note this becomes figure 2 actually in the updated report. And here we kind of just have three categories of people of color. Anyway it's displayed more closely than how we conduct the analysis in the updated report.

Mary O'Loan: What do you mean? I'm not sure I understand what you mean.

(Jill Johnston): (inaudible) – so we actually had like six – six categories that we assign census blocks into six racial category. And on this map but as original figure in order to simplify it we just show three categories under 20 percent, 20 to 40 percent and then above 40 percent.

Mary O'Loan: We – that was actually a little hard to hear. Can you say that again?

(Jill Johnston): I'm sorry. So on this figure the figure 3 we show – we just showed three categories just that we simplify for purposes of displaying the information which was less than 20 percent, 20 to 40 percent and greater than 40 percent whereas in the updated figure we show all six categories that we use for our analysis. So it's just a minor and it doesn't impact my interpretation of it.

Mary O'Loan: OK.

(Jill Johnston): But just to note if were discussing these changes between the two versions. That was one. We just changed how we displayed the information.

Mary O'Loan: OK. in the updated version it's figure 2 on page 11.

(Jill Johnston): Yes.

Mary O'Loan: OK. So now were moving on to table 2. So table 2 is – table 2 is discussed in a handful of paragraphs in the complaint. So I guess I will just read them to you one at a time.

So this is paragraph 132 on page – I don't know what – wait. 13, so it's 13. No. It's not. What am I talking about? 35, paragraph 132 on page 35 of the complaint. And we are talking about table 2 on page 13 of the study.

Paragraph 132 says analysis of the populations statewide yields consistent result. The proportionate of African Americans, Latino's and Native Americans statewide living within three miles of an industrial swine facility are 1.4, 1.26 and 2.3 times higher than the percentage of non Hispanic White respectively which (inaudible) is varied are also statistically significant. Is that right?

Mariane Engelman Lado: Yes, table 2.



Mary O'Loan: I would note that refers to both page 6 and table 2 of the report. The (inaudible) 32, 132.

Mariane Engelman Lado: OK.

Mary O'Loan: That is basically your sort of quoting page 6. Is that what you're saying?

Mariane Engelman Lado: I believe so.

(Jill Johnston): So that statement I think maybe actually doesn't draw on table 2 that we have shown here which is just for the study area. I think – I believe those numbers that you've read are for the whole state for a statewide analysis where we don't exclude any areas.

Mary O'Loan: OK. So which table should this or this about? Where are those results displayed? Here. It's the first paragraph on page 6, OK.

(Jill Johnston): I am not sure of all the tables from our statewide analysis were included in the documents sent to you.

Mary O'Loan: You mean – OK. So the document dated August 29th, 2014, Industrial Hog Operations in North Carolina. What you're saying is there's results discussed in the text that aren't displayed in the table or figure.

(Jill Johnston): Yes, so all the tables and the figures provided in this document are just for the analysis where we restructured to the study area as (inaudible) –

Mary O'Loan: OK.

(Jill Johnston): But there was a parallel analysis that didn't restrict that like included all (inaudible) in the State of North Carolina as of these results included in the text on page 6 (inaudible) analysis that uses the entire population.

Mary O'Loan: OK. OK. Just to draw your attention to paragraphs 131 and 132 of the complaint. 131 says analysis based on the study area that excludes the state

five major cities in western county. And then goes on to give the numbers. And then paragraph 132 by contrast says analysis of the population statewide yields consistent result.

So paragraph 131 is about the data in the study area and paragraph 132 says it's consistent but here are the numbers for the state – for a statewide run. Is that correct (Jill)?

(Jill Johnston): Yes.

Jeryl Covington: So 131 again is just for the state –

(Jill Johnston): OK.

Jeryl Covington: Or Statewide?

Mary O'Loan: Paragraph 131 says analysis on a study area so it's for the state but only the study area within the state. And that's what the tables reflect. Paragraph 132, the very first sentence says analysis of the population statewide yields consistent results.

So that's – those numbers 1.4, 1.26 and 2.39 which are the same numbers that appear at the top of the report on page 6 first paragraph is the statewide numbers not just the study area.

Mariane Engelman Lado: So the reference table is not because those numbers come from table 2. But because table 2 – wait. What is it? It's not about – the reference to table 2 should probably be like C also. It's – you know I think table, I'm sorry.

Page 6 is the actual support where table as – as Dr. Johnston said seems to be only the study area. Is it all state in the original?

Jeryl Covington: Well it's racial and ethnic composition of (inaudible) is blocked within three miles of an (inaudible) IHO and more than three miles. So it's the study area excluding the western county.

Mary O'Loan: (inaudible) the study.

Jeryl Covington: Let me (inaudible) –

Mary O'Loan: OK, so I'm sorry. So this paragraph is basically saying that the statewide results are consistent with table – the proportions are consistent with table 2 which is about the study area?

Mariane Engelman Lado: Right.

Mary O'Loan: Dr. Johnston is that right?

(Jill Johnston): Yes, yes, so yes, I open up the – I found the document. So yes, so 131 is the proportion matches within table 2 and then 132 is referring to the state wide analysis with no exclusion areas in which that we did not show the table in this report.

Mary O'Loan: OK, great. We're going to go to – I think so paragraph 140 in the complaint I think it's sort of repeat of that. The statewide proportion of African Americans living within three miles of an industrial line facility – statewide is 1.4 times higher than the proportion of non Hispanic white in that site, table 2 and in page – table 2 and page 6.

(Jill Johnston): Yes, I believe that's the – as the same (inaudible) one about matches that the table. In this report that is the study area and then 140 versus the statewide analysis.

Mary O'Loan: OK, 142. OK, so the next paragraph then is 142. Are we having the same issue here – the same thing going on. African Americans make up a larger portion – proportion of the population living in (inaudible) industrial

(inaudible) and the proportion of the population living within three miles away from any facility with disparity.

(Jill Johnston): I believe that (inaudible) right that the 20 percent of African American compared to 13 percent of non Hispanic white that live within three miles of a (inaudible).

Mary O'Loan: I'm sorry were you quoting again from paragraph 132?

Mariane Engelman Lado: What are you talking about 142?

Mary O'Loan: 142, OK, thank you.

Mariane Engelman Lado: (inaudible). And it doesn't provide the numbers. But I believe the reference seems appropriate.

Mary O'Loan: OK. And the statement is accurate? 142, OK. Now were moving to 148.

Mariane Engelman Lado: Yes, that's the same. That's in reference to the statewide analysis.

Mary O'Loan: OK and that's accurate?

Mariane Engelman Lado: Yes.

Mary O'Loan: And 150. That's 0.2. This is a – Yes, I believe that is correct.

Mariane Engelman Lado: OK. So I'm just trying to reach back and – and Dr. (Johnson) you may remember as well these reference to table 2 there are different ways of looking at them. And one maybe that we met kind of the report six provides the information. It's more like a see also table 2 with consistent results. But – but the other way of thinking and I remember that there were lots of charts and tables with the numbers.

And I think and again Dr. (Johnson) you may remember better than I. We may have taken some charts and tables out simply to make it all more

presentable because it was kind of too long and too much. And if we did could this table 2 could have referred to statewide analysis.

I just don't remember if there was an earlier job with more tables but I seem to have some vague recollection and if so that it may just be kind of type o. But again it's also perfectly consistent, you know, that we may have just thought it also supported by table 2.

(Jill Johnston): You're are correct that some variation of all these tables included everything from the study area analysis and then a repeat, you know, maybe like, you know, 2A and 2B or something. I don't know exactly how we weighted it out but sometimes the study area to the whole state analysis. So it could have drawn on that.

And maybe the different iterations change. We try to not have quite as many table.

Mary O'Loan: Well I'm – this is Mary. I'm beginning to think maybe it would be a good idea to send all the tables in because I know that, you know, there were some questions here about numbers and stuff. So we could certainly look for any tables that we had that included the statewide analysis which is the piece here and because, you know, if we have something.

Also, you know, as these tables were being developed Dr. (Ling) and Dr. (Johnson) may have gone back to the data and tweaked, you know, and found that there was a mistake that we included (inaudible) or we included something else that had to be cleaned. So I don't want to send over stuff that isn't correct, isn't final, right? But because – because they worked on this and I said before there was a lot of work going into refining the data and then refining the methodology.

So but what we can look to see if there were – I do have a recollection that we may have had some near final tables that might have included the statewide data. And we just thought it was too much. So if we have that we can

certainly send that over and we'll look for that. I'll put a star next to that as a to do.

Mariane Engelman Lado: All right, thanks and when – just asking. So the tables don't have headers on them. they're descriptive like the ones that are here. So table 1 is –

Mary O'Loan: I'm not sure were looking for a totally free standing table or is Dr. (Johnson) said it may have been this table was an additional column. And we just thought it was too confusing to have all that information in one column. It's that kind of thing.

So – so it would have a header, you know, if it were a near final version. But I just don't – it's a couple of years ago. And by the time the revisions came long it was more like using this 2014 version as a base so some of these questions weren't revisited again

So its two years ago and I'd have to look back and confer with Dr. (Johnson). But I think there maybe something that we can send over to you with statewide data.

Female: Yes, we may have to format I'm not sure all the information ended up in this final format but the version of the data available.

Mary O'Loan: OK, all right. So turning back –

Female: Just to be clear as I read this and Mary you can correct if you're looking for something that I'm not thinking or Dr. (Johnson) correct me if I'm wrong about this. But the data is actually in on page 6. It's just that it's not presented in, you know, in table 2 and the references from table 2 and that's a little confusing. So if we can find that so it I'm happy to do that. But it doesn't -- Dr. (Johnson) does it change any of your conclusions or is there anything different or new about that data?

(Jill Johnston): No, I think it's consistent with what we – with the table that we show. And that, you know, the number and the text and what seems to be in this complaint form are correct.

Mariane Engelman Lado: OK. So, you know, we wanted to – I'm looking at the clock it's five after four. But we wanted to, you know, March through sort of these paragraphs to have you, you know, do what you've been doing so far which is that it's saying yes, that's an accurate characterization of this – this table. And then, you know, after that we have a handful of other questions.

But I'm wondering if there's an easier way to do this than just doing it on the phone here so that we can move on to the other kinds of – the other questions that we have. Did you -- Dr. (Johnson), did you write these paragraphs that are in the complaint or did you – and or did you – did you write them? That's the first question.

(Jill Johnston): No, I did not write them.

Mariane Engelman Lado: OK. Did you review them all before they, you know, came to EPA?

(Jill Johnston): I reviewed a version of them. I can't say whether it was the final version or not.

Mariane Engelman Lado: Yes, here's what I'm trying to do. Mary and I think you probably see what I'm trying to do here. I just want to make sure that – that Dr. (Johnson) because she didn't write it. But she does agree with what it says.

And that's all I'm trying to do to make sure that now when we use it, you know, when we – if we were going to, you know, use the languages in here that it's – that we can adopt it just trying to (inaudible) here. Let me propose this since Dr. (Johnson) – we didn't know that this was what you're going to do and Dr. (Wing) also reviewed these paragraphs.

And well, you know, we may have six type o's after he reviewed it. He definitely reviewed the final version. I – but perhaps since we didn't expect this line of questioning and Dr. (Johnson) has a copy of the complaint after the phone call either if you can identify which paragraphs you want her to review –

Female: Sure.

Mariane Engelman Lado: And so you can look at them and we can follow up. And if there are any points of divergents of course Dr. (Johnson) should say so on those paragraphs. But (inaudible) have time to review them and she can get back to us.

Female: Yes, I think that's more efficient.

Mariane Engelman Lado: OK. OK, is that OK with you Dr. (Johnson)?

(Jill Johnston): Yes, I can do that.

Mariane Engelman Lado: OK. Which paragraphs is it or do you want to e-mail us?

Female: We're going to e-mail it. Yes. And we'll have to e-mail you the list.

Mariane Engelman Lado: OK, the next question is I think we're already gone. It's hasn't been – the study has – now we're moving off the, you know, this sticky thing and moving into more general questions. So the study hasn't been published. And you're checking Mary on whether it was provided to DEQ.

Mary O'Loan: Yes.

Mariane Engelman Lado: OK. And I don't think we need to answer the next two. Do you know has this been made public in other way?

(Jill Johnston): I believe that on Earth Justice Website.



Mariane Engelman Lado: On the Earth Justice Website?

Female: Is that correct?

Mariane Engelman Lado: OK, then maybe I will after next question. Are you aware of any of response or criticisms or critiques of the study, you know, that are out there?

Female: I am not and Dr. (Ling) hasn't shared any with me if he has received something.

Mary O'Loan: Mariane have – have you?

Mariane Engelman Lado: I'm thinking. To be – to be as – as complete as I can but I'm racking my brain and I – I don't think I have received any critique or response for the disproportionality analysis.

Mary O'Loan: OK, all right. Well, you know, if you do come across anything, let us know. OK, now – now I just wanted to talk about the 2000 study. And mainly it's the differences between the 2000 study and the 2014 study. And, you know, sort of why those changes occurred if you know the answer.

So, one of the changes was –

Mariane Engelman Lado: I'm sorry before you go in to that, I like you to just hold up the –

Mary O'Loan: Yes.

Mariane Engelman Lado: -- our Website and it's look the disproportionality analysis is available through our Website.

Female: Not on the Website?

Mariane Engelman Lado: Not on our Website? Where?

Female: North Carolina Policy Watch.

Mariane Engelman Lado: North Carolina Policy Watch.

Mary O'Loan: OK. Complaint or the study?

Mariane Engelman Lado: The study.

Mary O'Loan: OK, good, OK.

Mariane Engelman Lado: But – OK, then if you heard that the 2014 analysis seems to be available on North Carolina Policy Watch. We – just also so, you know, this is a little bit of an (inaudible) from this interview but we have not generally made available the declarations to the press or to other people. We – we in general when we've got an inquiries we will call the declarant that might have information responsive to an inquiry.

And ask whether it's OK if we share their declaration even for people who did not ask to have their information anonymous. I mean it's anonymously and – and as, you know, there was – that – that there was that category as well. But we are, you know, -- we are respectful of people's courage and concerns about retaliation and so we've been very careful not to just throw everything up on the Website.

And it doesn't run to the disparities analysis but we haven't just put all the exhibits up on our Website or in any other place. So, that's – that's part of the backdrop as to why I'm not clear to where we sent what.

Mary O'Loan: OK. Did North Carolina Policy Watch just picked this up off of your Website? So, I'm wondering, so you said you haven't received any critiques. I guess I'm wondering or criticisms or, you know, any – anything not off the wall. Could it have gone in to –

Mariane Engelman Lado: North Carolina –

Mary O'Loan: North Carolina Policy Watch.

Elizabeth Haddix: It's a – this is Elizabeth.

Mary O'Loan: Yes.

Elizabeth Haddix: North Carolina Policy watch picked up the complaint from the centers Website and I'm not recalling any discussion that I had with them. But it would not surprise me at all because they're – they are investigative journalist that they would dig in to studies referenced in the complaint and share this with the public. So, in that – since the 2014 study, I mean it was not confidential, it's not surprising that they posted it on their Website.

Mary O'Loan: And Dr. (Ling) may have been talking to members of the public and providing copies since it wasn't confidential.

Mary O'Loan: OK.

Elizabeth Haddix: I'm pretty sure that they had also posted the 2000 report a long time – years ago.

Mary O'Loan: Right.

Elizabeth Haddix: So, it – it could be also that they've just been practicing Dr. (Wing's) work so.

Mary O'Loan: Do you have a relationship with them or they just pick your stuff up and – and they put it up there. Because what I'm wondering is whether they were on the receiving end of anything legitimate as far as the critiques.

Elizabeth Haddix: I do – we do have a relationship with them (inaudible) relationship with them so

Mary O'Loan: Yes, we, you know, we're interest – we are interested in it. I mean we're going to look to but we don't know what, you know, if they curate their site or

what happened. So, we would be interested if – if they happened to have anything.

Elizabeth Haddix: I'll find out.

Mary O'Loan: OK, sure, great. Thank you. OK so – so circling back Dr. (Johnson) to the – to the 2000 study and some of the changes in the methodology from that study to the 2014 study. One of the things that was discussed in the 2000 study had to do with well water. And looking at those that were – you know, somehow including those and now I can't remember because I'm – I'm looking for it now.

But that was taken in to account but that wasn't discussed in the 2014 study.

Female: So, my understanding in that report they looked at sort of three different vulnerable populations. One being racial and ethnic minorities, one, do you know looking at people living poverty. And a third looking at people who are relied on well water, but so – the – they all of three variables we're not included in one model because they were sort of three parallel analysis that looked at the correlation between those different categories stick to the population and proximity put to (inaudible).

Mary O'Loan: OK. And the well water components wasn't done in 2014, do you know – is there a lead in –

Female: Yes, I mean so specifically we kind of prioritize looking at racial and ethnic disparities in that analysis. And just – just a limited focused specifically on that issue. But also – so the 1990 census included information about people's drinking water resources. But the best of my knowledge that is the last census that included that data so if we wanted to look at data in, you know, in the 2020 start (inaudible) the 2010 census.

They did not include questions asking about drinking water.

Mary O'Loan: All right, great, thank you.

Mariane Engelman Lado: It's like this is Mariane if I could just interject, so because this is – this was not a general study for the general public but a study to test whether there was a racial disparity related to the general permit. The – the request was to examine that question whether there are disparities on the (inaudible) and ethnicity. So, you know, there's a difference between doing a study, you know, for the general inquiry of, you know, of vulnerable populations and – and their relationship to (inaudible) and looking in to the relationship on the basis of race and ethnicity and whether the civil rights law is violated.

So, it was really a question as to whether or not there was a disparity that cognizable under the civil rights law that, you know, that Dr. (Ling) and – and Dr. (Johnson) generously took up. So, that you know, -- that's a big part of it here.

Mary O'Loan: OK. Yes, I – I understand what you're saying Mariane. OK, the – so the next question it has to do with the distance and we talked about a little bit earlier. And I think that 2000 study did one and two mile buffers and now this one goes to three so can you – can you – and the next one has to do – the next question I have has to do with the measurement. The idea of moving off the buffer zones around the – since the black group area to using the center.

So, I mean maybe it's all related but if you could explain that.

Female: Yes, yes so a major difference between the – for the special approach that we took in these two different reports is in the 2000 reports they relied on black groups.

And so here there was a little over 4,000 black groups included I believe in the study area. And so, with our report we have over 200,000 blocks in our study area. So, the size of the blacks and the size of the black groups are very different especially in rural areas because they sort of and acrid to have, you know, similar types of populations in terms of counts in the – in these different census like geographic areas. And so rural areas the black groups tend to be very big and so – so they were looking at the – the principal

analysis in this 2000 report wanted to see if there was any (inaudible) in the black groups.

And that as sort of a sensitivity approach because, you know, you can have (inaudible) right in the corner of a black group and so that could impact it's neighboring black groups as well or a proportion of that population. So, as a sensitivity approach they also look at, sort of one mile around the black group and then two miles around the black group and included, you know, the category of whether or not it was near a (inaudible) or it's adjusted based on those parameters.

So, in contrast when you look at blocks, I don't remember the exact number but, you know, there's a little over 2,000 (inaudible) in the state so if we were just to assign exposure based on whether or not there was a (inaudible) in the block, you know, that went down to like fewer than a thousand blocks because they're just much smaller. And so for – for this analysis it – when – when you're using blocks as your unit of analysis then – then you need to consider I mean we believe it's important to consider a buffer zone around it because we know how chemicals can travel off site.

And so, you know, using evidence a lot of papers that have been published since 2000 we sort of relied on a – a three miles buffer for the 2014 report. But that is – I mean the – the special scale of the few are just – it was very different and so that's part of these and issue their difference in what kind of buffers, what considers.

(Jill Johnston): Let – let me ask what – and this is (Jill) so I'm – I'm understanding that you all looked the blocked group and you still considering I guess the travel, the air emissions of H<sub>2</sub>S, you all didn't overlay on this one as well to come up with that distance.

Female: On the 2000 report?

(Jill Johnston): Yes.

Female3: So, the choice of the one and two mile buffers I can now specifically speak to.

(Jill Johnston): OK.

Female: As our part – I believe the data presented here in the table don't specifically include the buffer zone but that was used as a sensitivity analysis. So, if we included these buffers or change their definition of exposure with the patterns that we changed and – and from my understanding of this report, you know, the patterns were – were consistent but I believe the tables show rely on the definition of that blocked group is exposed if there's a capo in that blocked group.

(Jill Johnston): I'm going to repeat that. So, you're saying the block group is exposed if there is a capo in that blocked group?

Female: Yes, that was the primary definition of the analysis from – from my understanding in this 2000 report.

Mary O'Loan: And the one and two mile buffer around the block group was not that populations were measured one and two miles outside of that blocked group? For some other reason.

Female: Yes, so it would take – so perhaps there would be no capo in a block group.

Mary O'Loan: OK.

Female: But if you do a one mile buffer around it there would be a capo. So, under that condition you would include that block group as this population is exposed to a capo. And – it doesn't specify I assume because it's block group that's using like around the – one mile around the buffer rather one mile from the centroid.

Mary O'Loan: Yes.

Female: Because – you know, because block groups are so much bigger so – so you wouldn't get much outside the borders with that definition.

Mary O'Loan: Dr. Johnston –

Female: Yes.

Mary O'Loan: And so just to – just to make sure I have it and it's clear when you say you would include that (inaudible) that's in the buffer off to two miles away in exposure that would be in the sensitivity analysis but not in – I don't know what you call it but the core analysis.

Female: Yes, that's how, you know, I don't want to say 100 percent because I do not make these tables. But as I read this paper and how I understand the data presented is they're not using the – the buffered definition. They're – they're just using the category of whether or there's an (inaudible) inside the block group.

Mary O'Loan: OK, OK, anybody else? All right so the next question and Mariane, I think this probably goes back to what you've already said but. Why was poverty omitted this time?

Female: Yes, I think it goes back to the same point is that we were, you know, looking at – at criteria that were considered under the – the civil rights act.

Mary O'Loan: OK.

Female: And – and so, you know, poverty not being one of those classes considered we didn't included it in the analysis.

Mary O'Loan: OK. Are there any other differences that you by chance know about between 2000 and the 2014?

Female: I mean, you know, the – how we assigned which people were exposed. We're different also this analysis includes all commercial (inaudible) in the state of



North Carolina whereas the 2014 we restricted to those (inaudible) that are covered under the general permit. So, it does not include ones under the individual permits or under (inaudible).

Mary O'Loan: OK. Didn't you Dr. Johnston, explain what you mean by how the – how people are assigned. Are you referring to the use of quintiles and can you explain what the significance of that is.

(Jill Johnston): Yes, so actually now as (inaudible), you know, it was – you're considered to be exposed to a (inaudible) if you live in a block group with the (inaudible). You know, whereas in our – in our 2014 report, you're considered to be exposed to a (inaudible) if you're – the centroid of your block is within three miles of (inaudible).

Mary O'Loan: Right.

(Jill Johnston): But, yes, here also the – we – we take a similar approach to using your (inaudible) variables to account for non-linearity in the relationship between, you know, racial composition and proximity or exposure to (inaudible). But in this 2000 analysis they divide the group so that in each of the prior groups there's an equal number of block groups in it. So, that's how they defined their power point. So, for example like the – what was quintile is (inaudible) at 2.3 percent, the highest quintile more than 44 percent people of color.

Whereas in the updated (inaudible) we used partly just – because we thought it was a little bit more intuitive and easier to understand. We categorized the percent people of color in to equal – like equal percentages.

So, our reference group was the (inaudible) percent people of color because that was a high percentage of population where they live in blocks with no people of color and then divided it from, you know, more than (inaudible) with the 20 – 20 to 40 in this group of 20 percent. Because it's – it's a low risk I think easier to communicate rather than having to talk about, you know, that quintile versus that quintile and also because then we're able to look at, you know, these census blocks that are majority people of color.

Mary O'Loan: So, Dr. Johnston so that the – just a follow up on that. So, that if you used quintile it would have – would you – it would have been difficult to say anything meaningful about the effect of living in a – over 60 percent versus over 80 percent people of color community but using your methodology you could get more granular on that basis? Is that – is that right? I didn't hear the answer.

(Jill Johnston): I'm sorry. Yes, that is correct.

Mary O'Loan: OK. OK. Anybody else have any other questions, comments? OK. So, the 2000 study and – and, you know, maybe you – you may not be able to answer this but are you aware of any criticisms of that study. So, I think that – wasn't that submitted in one of the general permit processes? So, I'm wondering if they got more play in the outside world then if, you know, what reaction there may have been to that that you're aware of or critiques?

(Jill Johnston): I mean it was polished and as I know how pushed back is with this, you know, I had quality journal and environmental house codes went to the pair of new process. But I can't speak to any of critiques of it.

Mary O'Loan: OK. All right, where are we now? I think we're close to wrapping up here. we have a general – one – one last – one question here is the – is the generic one that's – that's all experts get asked and you probably seen it on TV which is the – you know, were you compensated for doing the study.

(Jill Johnston): No. No, I was not.

Mary O'Loan: OK. And the other question I have – I heard somebody laughing we're wondering if – if you had worked with Dr. (Ling) on any other studies related to swine and – and swine farms of North Carolina.

(Jill Johnston): Yes, I worked with him and also Dr. (Getri) around that analysis of hydrogen sulfide concentration near middle schools in Eastern North Carolina which was recently published.

Mary O'Loan: OK, that was – I think that is in your CV or was referenced on your CV, is that right?

(Jill Johnston): Yes, yes.

Mary O'Loan: And – and I was just going to interject here that that work and – and (Dr. Johnson's) experience working on studies generally community based participations studies and other work in the community on which she might base opinions about the adverse impact of – of swine (inaudible) could be subject to another interview as we kind of went back and forth on – that wasn't the premise of this interview but –

(Jill Johnston): Right.

Mariane Engelman Lado: But she's generously said that, you know, if – if she knows in advance that she'd be more than happy to talk to you about that body of work in the research associated with it.

Mary O'Loan: OK, that would be great. Did – did the hydrogen sulfide study get submitted with the materials you sent in April Mariane?

Mariane Engelman Lado: Yes, it is the study that is – it was confidential at the time but it is since been published. So, it – it's – it exhibit but it also says it's confidential.

Mary O'Loan: OK, so –

Mariane Engelman Lado: It was pre-publication at that point.

Mary O'Loan: We have a – the – I'm trying to find – do we can – can send up the publication copy just to make it easy?

Mariane Engelman Lado: Yes.

Mary O'Loan: For us the – the published version, that would be great. You have any other questions right now, do you have another one?

Female: I don't think so.

Mary O'Loan: Is there – is there anything else that – that you wanted to add Dr. Johnston?

(Jill Johnston): You don't – no, I don't believe so, I think if you have a chance to review or update the report then I'm happy to answer any questions or if there are any clarifications related to that but if – if I was a pretty parallel structure that you have we just refined the which (inaudible) we're in included in the analysis.

Mary O'Loan: OK , and so, yes, and I'm kind of thinking Mariane since I haven't had a chance to look at it that, you know, how we were going to send you the paragraph that we wanted to do. I have a feeling we're going to – we have to fix because we have to switch it now to the – to the newer study. So, there's a newer study – what you submitted Mariane, is it going to include – is it's just a new study or do you have a cover letter that it's like the complaint that goes through and, you know, here's the – here's the layman, you know, description of what is in – the support.

Mariane Engelman Lado: So, it's a little bit of a hybrid in the sense that we have the complaint and we're – we're filing additional submission in support of the allegations in the complaint. We don't amend the complaint and say this goes to paragraph 132, we rather are just submitting additional documentation in support of those allegations. So, there is a – a short cover letter but it's not – it's not lengthy and, you know, doesn't go in to which paragraph that it's supports.

Mary O'Loan: OK.

Mariane Engelman Lado: OK, the other thing I was thinking might be useful since we're ending up a little bit early which is good is just to say a little bit more about Dr. Johnston experienced, you know, and background and expertise on methodological issues and, you know, -- and of course it's (Todd) or -- or

research done or either you have her CV and I think Jeryl Covington asked some questions earlier on but if you have any questions out that are – or I would just open up to Dr. Johnston to say a few more words about whether you have taken any courses or have any special training or expertise on methodology in epidemiology and public health.

(Jill Johnston): Sure. I mean because the starting point is, you know, that's – that was not submitted to the (inaudible) process but there's a recent publication that – that are authored in the American Journal of Public health. That – so the uses are very similar approach to a racial disparities analysis. It's around a different topic looking at waste water disposal wells in – in South Texas so not related to industrial animal operations. But, you know, when did the peer review process used (inaudible) data and – and a very similar approach to that.

So, there is, you know, some of – some of that sort of expertise and – and credentials in the peer reviewed literature that – that is similar methods to what we're doing here in this paper. You know, but also, yes I mean I do have fairly expensive course work and the – these different types of – of progression modeling epidemiological study designed and also just quantitative data analysis process like both in, you know, in biostatistics and epidemiology and then also in the (inaudible) metrics.

And – and then, you know, I had a two year post doctoral fellowship and environmental epidemiology and – and co-taught class with Dr. (Ling) specifically on community based epidemiological methods and environmental justice.

Mariane Engelman Lado: OK, well thank you actually that was helpful particularly to the reference to the West Texas or the – the –

(Jill Johnston): Yes, so (inaudible) I mean I can send it to you but it's also included in my CV and, yes maybe helpful I – I think it's from critiques on – on the – from the oil industry but nothing that – that was really methodological driven but – but yes that can – it's – it's a reference in the peer review literature that's – that takes a

very similar approach to – to had it analyze data in a racial disparities analysis as (inaudible).

Mary O'Loan: OK, is it – is it easy for you to send us that report that because that – that –

(Jill Johnston): Yes.

Mary O'Loan: -- I think that would be helpful and then –

(Jill Johnston): Then maybe I could send it to Mariane and then – and in her package she can share with you.

Mariane Engelman Lado: Yes.

Mary O'Loan: Great. And the – the oil and gas industry comments or response or whatever you want to call it. How – like what form did that take?

(Jill Johnston): It came out to a reporter that shared it to me – with me.

Mary O'Loan: Can – would you be willing to share that as well?

(Jill Johnston): Yes, let me – let me review it but probably –

Mary O'Loan: OK. OK, did anybody else have any questions at this point? OK. So, we – we have some follow up, we have some things to give you, we'll wait for your list of paragraphs as well and exchange information and then it's sounds like on – on the – the follow up report that was submitted this year as well as the more recent study as well as other studies and work on the adverse impacts we should schedule another interview time.

And we can try to do that relatively quickly I think if – if you like so let's try to get that all under way.

Mariane Engelman Lado: Yes, I think we'll have to – to get back to you on that.

Brent Ducharme: Yes, yes Mariane what I – what I have identified so far is that you will be sending after you review the background, the statewide study so that we can correlate the tables and the statewide data that you have in the – in the report. We will follow up on whether that questions for the paragraphs are relevant. We need to review the data that you just sent to us on April 12, 2016 to see if those questions have been answered. So, we'll have to review that e-mail and I did receive those e-mail submission.

So, let us look at that and then we'll probably coordinate amongst ourselves on the follow up interview with Dr. Johnston and yourself.

Mariane Engelman Lado: Sure (inaudible) if you could send me some dates. I – I think what we said on the statewide data is if there are final charts again, I think it's just a reference problem and the complaint to this table to –

Brent Ducharme: Yes.

Mariane Engelman Lado: If there was another table too with the state wide data or another table with the state wide data or another column in an earlier draft that, you know, sufficiently well along, we'd be happy to send it to you.

Brent Ducharme: OK.

Mariane Engelman Lado: But we will – we'll look for that and get back to you on that.

Brent Ducharme: OK. And the – the follow up we did receive in the April 12 submission the (inaudible) report that is marked confidential and I think you're going to submit that after publication without the confidential reference to it.

Mariane Engelman Lado: Correct.

Brent Ducharme: And Dr. Johnston is going to do the supplementary information on the oil and gas disparity analysis literature to you and then you'll subsequently submit that to us.

Mary O'Loan: So, I think it would be the publication as well as she's going to review the feedback she got to see if it's appropriate to forward.

Mariane Engelman Lado: Right.

Brent Ducharme: Right. OK.

Mariane Engelman Lado: Terrific. OK, OK. Thank you.

Mary O'Loan: Yes, I think that's it for now.

(Jill Johnston): OK.

Mariane Engelman Lado: OK.

Mary O'Loan: All right thank you very much and thank you Dr. Johnston.

(Jill Johnston): All right thank you.

Mary O'Loan: OK, bye-bye.

Operator: The leader has disconnected, the conference will now end.

**END**

END





Office of Civil Rights  
REACH Complaint Meeting  
June 9, 2016 · 9:30 a.m. – 10:30 a.m.  
WJC North Conference Room 2528

Conference Number- ( **Ex. 6 - Personal Privacy** )

### Agenda

1. Interview of Dr. Wing
2. Call with Laurie
3. Draft plan (attached)/Case Management Plan
4. Outreach to OW and other program offices
5. Draft RFI -- we need time to discuss before I leave
6. Updating of SharePoint site

### Notes

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International Language Services, Inc.  
300 East 42nd Street, 14th Floor New York, NY 10017

CASE No.: 26R-16-R6

FILE EXHIBIT: 11R-14-R4 Interview 05 11 2016 (MP3)

DATE: MAY 11, 2016

TIME: N/A

LANGUAGE: ENGLISH

PARTICIPANTS: Mary O'Lone  
Johanna Johnson  
Jeryl Covington  
Ericka Farrell  
Marianne Engelman Lado  
Elizabeth McLaughlin  
Dr. Jill Johnston

ABBREVIATIONS: [U/I] Unintelligible  
[PH] Phonetic spelling  
Transcriptionist's note [ ]  
// - [Voices overlap]

PARTICIPANTS	TRANSCRIPTION
	[BEGINNING OF RECORDING]
ERICKA FARRELL:	Okay, we got Ericka Farrell from OCR Title 6 Office.
JERYL COVINGTON:	Jeryl Covington from OCR Title 6 Office.
MARY O'LONE:	This is Mary O'Lone, I'm from the Office of General Counsel.
JOHANNA JOHNSON:	Hi, this is Johanna Johnson, also from the Office of General Counsel.
MARIANNE ENGELMAN LADO:	Hi, there, thank you.
ERICKA FARRELL:	Okay. Oh, good, good afternoon. Again, this is Ericka Farrell, from the Office of Civil Rights Environmental Protection Agency in Washington, D.C. And thank you for taking the time to talk with us. And please be aware that this interview of Dr. Jill Johnston is being recorded. And are there any objections to recording this interview?
JOHANNA JOHNSON:	No.
MARY O'LONE:	Dr. Johnston, do you have any objections?
DR. JILL JOHNSTON:	No, I don't.
ERICKA FARRELL:	Okay, thank you. And as you know, your August 2014 study was submitted to OCR to rely upon in this investigation into whether North Carolina Department of Environment Quality Regulation of Swine Feeding Operations discriminate against African-Americans, Latinos, and Native-Americans on the basis of race and national origin in neighboring counties in violation of Title 6 and EPA's implementing regulations. And today we plan to ask some, ask you some fundamental questions... I'm sorry, foundational questions, regarding the study, in order for OCR to determine whether we can rely on the study for our investigation. In doing so, we are trying to understand what issues or arguments may be raised in opposition to your study. And we may need to ask you further questions at a later date. And as we get started, we're going to start right now, Dr. Johnston, with just some basic background questions. And can you please state for the record your name?

MARIANNE ENGELMAN LADO:	Ericka? Ericka, if I can just interrupt for just a second. I just want to make sure, there was two studies that Dr. Wing [PH] and Dr. Johnston did, conducted, and then resubmitted. One was the 2014, which you mentioned. And the other was the revised version that's dated, it was Exhibit 12 to a submission earlier this year, and it was dated October 19, 2015. And it's based on the current set of hub facilities that have, that are under the general permit. I just want to make sure both are in front of you.
MARY O'LONE:	Well, Marianne, the other one is not. The second one, the update, that was going to be one of our questions. This is-- I'm sorry, this Mary O'Lone. That was going to be one of our questions. Jeryl is now looking to see if we have it in our record.
JERYL COVINGTON:	Right, as Exhibit 12, that's the des... declaration by Jessie May Brinson [PH].
DR. JILL JOHNSTON:	No.
MARY O'LONE:	No, she's saying she sent something this year.
DR. JILL JOHNSTON:	So, Jeryl, it's not Exhibit 12 to this Complaint, it's attachment 12 to a subsequent submission that we made in 2016 that contains Steve Wing's [PH] declaration and it contains the revisions--
MARY O'LONE:	Where--
DR. JILL JOHNSTON:	--of this, of this study.
MARY O'LONE:	What's the date of that? 'Cause they're shake-- This is Mary again. They're shaking their heads, like OCR doesn't have it.
DR. JILL JOHNSTON:	I think it's all 12... You did receive it, I'm certain of that. April 12, 2016. And it had, and this is Attachment 12. And it's important that, you know, that we'll get into the methodologies and all that, but, you know, we wanted to make sure that there was a study of the actual data under the new permit. And the revised study is based on that, the data under the new permit.
MARY O'LONE:	Okay.
DR. JILL JOHNSTON:	And we could go ahead and if you can't find it you can ask questions based on--
MARY O'LONE:	Yeah.

DR. JILL JOHNSTON:	--the first study, and we can resume it another time. That will still be helpful, I'm sure, but it's important that you have that second study.
MARY O'LONE:	Are you... Marianne, this is Mary again. Are you at your desk? I mean, can you email it to Jeryl? And--
MARIANNE ENGELMAN LADO	Yes. I--
MARY O'LONE:	Email it to all of us, so that at least we know we have it. They'll go back and look for it, but I just want to make sure that we do get it today. But I also agree with you, 'cause I think unless the methodology changed from the report submitted with the complaint to today's, the questions would be the same, and it's just a matter of the conclusions or results. Right? That's what would've changed, potentially.
MARIANNE ENGELMAN LADO:	That's right. I mean, I'll let Dr. Johnston speak and she'll answer specific questions about that. But the basic methodology is the same. There may have been some tweaks that when you focus on it she can answer questions about. So, Alexis is uhm is forwarding it and who's, so who's going to, if they look for an email--
DR. JILL JOHNSTON:	Is there just one email I can send it to? And I'll just forward it to your right now?
JERYL COVINGTON:	covington.jeryl
DR. JILL JOHNSTON:	Okay, got that.
JERYL COVINGTON:	@epa.gov.
MARY O'LONE:	We did not recei-- Yeah, we did not receive that. I don't have a copy of that.
JOHANNA JOHNSON:	Okay. All right, so back to the beginning.
ERICKA FARRELL:	Yeah. For the record, Dr. Johnson [sic], can you please provide your full name?
DR. JILL JOHNSTON:	Jill Elizabeth Johnston.

ERICKA FARRELL:	And please provide your professional contact information, specifically your office address and office telephone number and office email.
DR. JILL JOHNSTON:	Yeah, it's 2001 North Soto Street, Los Angeles, California 90089. My office phone number is (323) 442-1099. My email is jillj@usc.edu.
ERICKA FARRELL:	Thank you. And as we begin, can you also state what your current professional position is?
DR. JILL JOHNSTON:	I'm Assistant Professor of Preventive Medicine in the Division of Environmental Health at the University of Southern California.
ERICKA FARRELL:	Okay. And as we begin also can you give us what your professional background is in relation to the studies that we're going to be talking about today?
DR. JILL JOHNSTON:	Yeah, I have a Ph.D. in environmental science and engineering, with a minor in public policy from the University of North Carolina at Chapel Hill. And I also completed a post-doctoral fellowship in environmental epidemiology, also at UNC.
ERICKA FARRELL:	Okay. And now, I'm going to turn this over to Mary O'Lone.
MARY O'LONE:	So this is Mary O'Lone. Dr. Johnston, Marianne's probably explained to you one of the reasons that we wanted to speak with you. And after we go through the questions that we have, you can see why it was a very good idea for us to speak to you first. Because what we wanted to do, when Marianne explained <span style="border: 1px dashed black; padding: 0 2px;">Ex. 6 - Personal Privacy</span> you know, if we had a chance to speak with him in the future, we wanted to try to limit the questions that, you know, we would be asking him. So, we really appreciate you making yourself available to answer these questions with us uhm... because I think there are a lot of them. And a lot of it comes from the fact that... that we don't have a particular background in this. So we're going to ask you probably some very basic questions from your perspective. But the first one is your role in the-- we're going to stop-- talk first about the 2014 study. And your role in that study.
DR. JILL JOHNSTON:	Yeah, so I collected the data and conducted the analysis in consultation with Dr. Wing. And created the table that figures in this report, and helped with drafting the text. But Dr. Wing put the lead on writing the text for this.
MARY O'LONE:	Okay. Was this study peer reviewed? Or did it go through any kind

	of even an informal internal sort of peer review?
DR. JILL JOHNSTON:	There was discussion with other faculty within our department at University of North Carolina, but it was not submitted or considered under a scientific peer review process for a journal.
MARY O'LONE:	Okay. And we might as well ask, the update that was done: similar? Did you--
DR. JILL JOHNSTON:	Yeah, it's the same as, also not submitted, or have been under a scientific peer review.
MARY O'LONE:	Okay. Do you-- And Marianne, I don't know if this is, this is maybe a question for you, I don't know if it's for you or Dr. Johnston, but was the... was the 2014 study submitted to North Carolina DEQ?
MARIANNE ENGELMAN LADO:	No.
MARY O'LONE:	Okay. Do you know if they're aware of it?
MARIANNE ENGELMAN LADO:	Not to my knowledge.
MARY O'LONE:	Okay. All right. Now we're going to get into sort of the nuts and bolts of the questions that we had about the study itself. So, Dr. Johnston, do you know, can you explain why three miles was chosen as the distance?
DR. JILL JOHNSTON:	Yeah, it's where we've been [U/I] on a few, paid for a few peer reviewed scientific studies, one was by Mirabelli [PH] from 2006, that specifically looked at asthma prevalence in middle school students in North Carolina, and found that middle schools within a few mile radius of industrial hub operations had higher prevalence of asthma and other asthma related symptoms compared to students who went to school farther away. Also, some dispersion modeling of hydrogen sulfide conducted at a large [U/I] CAFO in Iowa showed that hydrogen sulfide can travel up to six kilometers, which is a little over three miles from the facility itself, and impact air quality in that radius. And there was also sort of a few other studies that looked at the relationship between hydrogen sulfide through [U/I] and hoe CAFOs one from North Carolina and one from Iowa uhm... the one from North Carolina being by [U/I] in 2016 and then by Pavilonis [PH] in 2013, that used five kilometers as... as their distance.

MARY O'LONE:	Okay, thanks. Did you, by any chance, look at other distances or analyze other distances that weren't discussed in the 2014 report?
DR. JILL JOHNSTON:	So we did not. We considered different criteria for inclusion of census blocks uhm... you know, whether any part was within three miles or whether their centroid. But we really don't have the capacity to compare our three mile results to two miles or one mile or some other criteria.
ERICKA FARRELL:	Okay. Okay. How was... so basic question, how was the block centroid determined? Was it--
DR. JILL JOHNSTON:	And--
ERICKA FARRELL:	Is it a geographic location?
DR. JILL JOHNSTON:	Yeah, so within our GIS software, with the central block data from the U.S. Census 2010. And then yeah, the program assigned the centroid.
ERICKA FARRELL:	So it assigned it based on the geographic center of the block? Not something to do with the population.
DR. JILL JOHNSTON:	It had nothing to do with population, yeah, it had to do with spatial definition of where the centroid was being based on the shape of the block.
MARY O'LONE:	Okay. For the study area, 19 counties were excluded that didn't have an IHO and didn't border one. Why was it important to exclude those 19?
DR. JILL JOHNSTON:	We thought it was appropriate to consider populations that were potentially at risk for being near an industrial hub operation. And so, just the geography and mountainous nature of western North Carolina, you know, as well as highly urbanized areas, they're just not locations where CAFOS would be sited, so we didn't consider those populations at risk, and that did not include them in this study area for this analysis.
MARY O'LONE:	Okay, perfect.
JERYL COVINGTON:	Yes, this is Jeryl Covington. I do have one question on that one. You all were also excluding the counties that were adjacent to and had no-- Please give, can you explain the basis for that exclusion, as well? To the 19 counties in the western North Carolina area.



DR. JILL JOHNSTON:	Well, we excluded counties where... they had to meet two criteria. One is they had no CAFOS in their borders and no adjacent county to them had any CAFO. And it's largely because the areas are highly mountainous and don't have the stability or the land mass that you need for the liquid waste distribution system for a CAFO to be permitted there.
MARY O'LONE:	Is that good?
JERYL COVINGTON:	Okay, uhm-hum.
MARY O'LONE:	This is Mary again. What is the... Can you explain the adjustment for rurality? And is that the same thing as adjusting for population density? And then why was that appropriate?
DR. JILL JOHNSTON:	Yeah. So, yes, the... the so this concept of rurality, we measured it by population density for each census block. And we find this... and so we present both the unadjusted and the adjusted values in the report. But find that this is important because the land availability and also typically the price of land is highly influenced by the population density and the amount of land that is available. And also different patterns of which racial or ethnic group live in which areas can be... can influence population density, as well. So, that's why we chose that concept of both a marker of kind of the economics and the land availability to adjust for in the models.
JERYL COVINGTON:	This is Jeryl again. Could you... could you clarify the land availability? I wasn't quite clear on that explanation.
DR. JILL JOHNSTON:	Okay. Yeah, so, I mean, as I mentioned before, not only do you need the bond to house the animals, but then also, you know, field around it, where the waste is sprayed. So in areas with a high population density, you're not going to have... it's not necessarily going to be appropriate to have the space or the availability to put a CAFO in those areas or to put as many. Uhm. And so it's basically, you know, the land available for agriculture--
JERYL COVINGTON:	Right, but you--
DR. JILL JOHNSTON:	--density has correlated with the population density of that area.
MARY O'LONE:	But that... okay. This is Mary again. Just 'cause I... you can't see me, but my brain's cranking very slowly. [Laughs] But, so this is not because you were excluding these areas. 'Cause you've already

	excluded the 19 counties that have nothing. Now you're doing an adjustment to say, to basically say that, okay, in the... to find the... the... the more sparsely populate-- maybe... maybe we'll get into it when we get back into the tables and explaining those, but, you know, the f-- I'm trying to understand the fundamental point of why you did it. And it is to say that these things tend to go in really rural areas. And, you know, as we look at areas that get more and more rural, we also see, you know, what, where they are, the amounts of hogs there are, and a change in the demographics. Like, that's why you're doing the rurality piece to it?
DR. JILL JOHNSTON:	Yeah. I mean, so it's sort of a contest of, I guess you're familiar with confounding and other epidemiological models. So, we felt that population density is a very important factor that influences society of hog CAFOS. And so that's why we presented sort of adjusted models to acknowledge the fact that uhm population density and uh... add sort of a proxy for both the cost of land and the sort of amount of land that would be available for agricultural activities, was important to consider when we're looking at the association between race and permitting of hog CAFOS.
MARIANNE ENGELMAN LADO:	This is Marianne. Can I jump in for a sec?
MARY O'LONE:	Yeah.
MARIANNE ENGELMAN LADO:Z	On page four of the 2014 report, Dr. Johnston, you have a very [U/I] that says uhm, "By adjusting for pop density or rurality, we compare ratio vulnerability to IHH for racial groups within each level of rurality."
MARY O'LONE:	Right.
MARIANNE ENGELMAN LADO:	I think that's what you're getting at. Can you explain that a little bit more, what is... so it's not taking away the feeling, it's a way of testing for it by looking within each level rura-- I can't even say it-- rurality. Is there still a feeling it's a race this outcome?
DR. JILL JOHNSTON:	So, right, that is correct, and we try to uhm provide an example here that perhaps if I laid it out more I'd fit in, that... for example, like when you're looking at mortality rates, and you want to compare class treated per population, it's important to account for age because your risk of mortality changes with different age groups. And so if the age structure of the two populations aren't equal, you want to adjust for those factors or account for those factors, so that you can look with any to age group. So essentially we're trying to account for the same thing here, that... that

	acknowledges that perhaps you're rigged for a CAFO being permitted nearby you uhm... it's different depending on the population density of the area where you live. And so by including that adjustment, we can account for those differences across different areas in North Carolina.
MARY O'LONE:	Okay. Is everybody good on that right now?
MARIANNE ENGELMAN LADO:	Uhm-hum, uhm-hum.
MARY O'LONE:	Okay. Okay, so the uh... can you explain this steady state live weight calculation? So we're on page four again, of the 2014 study. And how did you determine whether the steady state live weight of an IHO should be included? And I-- this is, it's not about the calculation of the steady state live weight, but more... how you captured a particular IHO. And I sort of have two visual images in my mind. And one has... has-- you take the centroid of a block and you draw a circle three miles out. Right?
DR. JILL JOHNSTON:	Okay.
MARY O'LONE:	This is what I'm thinking happened. And the latitude and longitude of any IHO that fell within that three mile circle is what you counted. Is that right?
DR. JILL JOHNSTON:	That's correct.
MARY O'LONE:	All right.
DR. JILL JOHNSTON:	And it was summed. But yeah, we started at the centroid of each block. And did exactly as what you described.
MARY O'LONE:	Okay. Because what we were trying to figure out whether there was anything... whether it was like if you had, instead you were pulling, if there were a block that straddled the three mile circle, you know, you'd pull an IHO that might be sitting in that block. Do you know what I mean? But that's not what you did. You just, it was if the latitude and longitude of that CAFO fit in the circle. Then it was added to the total weight.
DR. JILL JOHNSTON:	Yeah, so in essence each CAFO was not counted one time, it could be counted multiple times, depending on how many blocks it was within three miles from.

MARIANNE ENGELMAN LADO:	In other words-- this is Marianne Engelman Lado again. Dr. Johnston, if there was a CAFO that straddled those, that three mile radius or was in one radius, then in another radius, how would you handle it?
DR. JILL JOHNSTON:	So yeah, so we were-- our unit of analysis is the census block. And so for each census block, sort of independent of all the other ones, we would draw the three mile radius and count up every CAFO that fell within the three miles. And then we would go to the next, you know, the adjacent block to it, draw a circle and count up every CAFO within three miles of that block. And so, so the sum in the steady state wide weight could be counted, you know, if not-- we didn't assign each CAFO only to one block.
MARIANNE ENGELMAN LADO:	Sure.
DR. JILL JOHNSTON:	We assigned each block to the nearby CAFO. Does that help explain it?
MARY O'LONE:	I think so. Well, so then the next... I guess my next question is, when you look at the people. So the latitude and the longitude has to be within a three-mile circle. And then when you count the people, how are you doing that?
DR. JILL JOHNSTON:	So the people are counted more than once. We... we uh include the population of each census block. So, all the-- there's 100 people living in the census block, they're all assigned the same steady state live weight--
MARY O'LONE:	Right.
DR. JILL JOHNSTON:	--based on what's the three-mile radius.
MARY O'LONE:	Okay, okay.
DR. JILL JOHNSTON:	Those people are not counted more than once in the model.
MARY O'LONE:	Okay, I get it. Anybody else have any questions on that steady state live weight? All right. Okay, the next question was about the, you know, asking you about the update. Did the update happen? But we know that it did, so we will skip that one and come back to it at a later date, probably. So, on page four... uhm, you describe how race and ethnicity was categorized. But then when we looked at the complaint, we went and we looked at page, where is it, 106.

	Okay, on page, I don't know what, 35 of the complaint, it also talks about the characterization, in particular, of African-Americans, and the descriptions seemed inconsistent to us. And it had to do with black his-- people who could identify themselves as black and Hispanic. And so we were wondering if these two... if the statement about it on page four of the 2014 report and footnote 106 on page 35 of the complaint, whether they were inconsistent or weren't inconsistent or, you know, like how we should be interpreting this?
DR. JILL JOHNSTON:	If I can describe the definition we used in the report, and then maybe Marianne can talk about the footnote. But CU's for one of the census categories, and so our definition of black was anyone who identified as... identified themselves as African-American, or black with or without any other race or ethnicity. So if they identified as black and Hispanic, they would be categorized in this black group. So that's how we did it for the purposes of this.
MARY O'LONE:	Okay.
MARIANNE ENGELMAN LADO:	And say, Dr. Johnston, in, on page four, it says "black," is people who identified themselves as African-American or black with or without any other race.
DR. JILL JOHNSTON:	Yes.
MARIANNE ENGELMAN LADO:	Right? I thought I just heard only without. With-- I'm sorry, without. [Laughs]
DR. JILL JOHNSTON:	No. No, I'm sorry, if I said that, I misstated. No, I meant yes, how it's in here is correct. So, it's--
MARIANNE ENGELMAN LADO:	Right. And footnote 106 says the term "African-American herein corresponds to the term black as used in the report, it... the black racial category refer to those who identified as African-Amer--" Oh, that's probably a typo, it should be with or without.
MARY O'LONE:	Okay. All right.
JOHANNA JOHNSON:	Hi, this is Johanna Johnson, I just have one quick follow up question, and that's with regards to individuals who identify themselves as black Hispanic. You indicated they would be categorized in the black category. But would they also appear in the Hispanic category, as well?
DR. JILL JOHNSTON:	Yeah, so I only know one of the tables, these terms, that the definitions of black, Hispanic and American-Indian, we did not use

	mutually exclusive ter-- or mutually exclusive categories. So, people, when we do the race specific analyses, they could be counted with more than one race. You know, based on what they identified on their census forms.
MARY O'LONE:	Okay. Any other questions here?
DR. JILL JOHNSTON:	But the category of non-Hispanic White and people of color, those two are mutually exclusive. So there's no one that overlaps. You know, which is what we use for our primary analyses.
MARY O'LONE:	Right. Okay. Anything else? No? Okay. Now what we'd like to do, and Marianne, maybe you can help in this, in the update that was sent, you know, is it just the numbers that have changed? Well, let me explain what I'm going to do here. What we wanted to do was walk through in the study each of the tables, each of the figures and tables, to make sure we understand what they say. And then we wanted to look at them, look at how they're characterized in the complaint. Because one of the things that we have to do as we discuss it internally is be able to communicate in layman's terms how these... what... what these findings are. So we want to make sure that we understand it. And we can see that the complaint takes... you know, writes up something. And so we wanted to see, we wanted to make sure that, you know, what was in the study, I mean, what was in the complaint, we could, you know, use that as our layman's discussion. So we wanted to crosswalk these things. But also go through them and make sure that we actually understand, you know, what the study itself was saying. Okay?
MARIANNE ENGELMAN LADO:	Let me, yeah, let me give some context. And I don't know if this will be helpful or not, but let's try. First of all, Elizabeth reminded me, and we will double check, that when we filed the complaint, we probably sent a copy to then DEMA [PH] now DEQ.
MARY O'LONE:	I think that's right.
MARIANNE ENGELMAN LADO:	There were some confidential documents in there, so we didn't send the whole thing, and we'll have to go back and check our records and let you know what we sent and what we didn't. I don't see any reason-- I mean, this was not a confidential document. But I just don't remember. So, and I'm not sitting on front of the, you know, my computer where I can pull up exactly what was sent to DEQ. So, so we'll do that and we'll... we'll get back to you on that. In terms of the difference, let me tell you our... our thinking and methodology as complainants, and then Dr. Johnston can say a little bit about what might've been different, if... if you remember, Dr. Johnston. So, we obviously wanted to get, even though the 180 day requirements is waivable, we wanted to get a complete set of

	<p>allegations into OCI within 180 days. So, we wanted to do it, just submit a disproportionality analysis that was rigorous within that 180 day timeline, that challenges at the 180 day timeline, the uhm the... the data uhm wasn't... I think it wasn't even up on the website for DEQ or then DENA. But if it was, not with sufficient notice to be able to ask Dr. Wing and Dr. Johnston to do an analysis. So, talking to... knowing that there wasn't going to be that much difference in the location of these facilities, uhm for technical reason which you may be aware of, that any new facilities in the State of North Carolina, have to use new technologies. And it's only preexisting facilities that haven't expanded that are under the state general permit. So while some facilities may drop out of the list, there are not going to be any new facilities on the list, and there's kind of a disincentive to drop out. So we knew there wouldn't be that much change.</p>
MARY O'LONE:	Uhm-hum.
MARIANNE ENGELMAN LADO:	<p>So uhm we did ask Dr. Wing and Dr. Johnston if it made sense to do the disparities analysis first, on... on the risks that existed uhm at the time right before we filed the complaint, which is what they did, with the ex-- and then... and they can refine their methodology by doing that, building on the work that they had previously done on disproportionality. And then, once... once we had the list-- and... and I should say, and Dr. Johnston can talk more about this, there was a lot of work that went into that, there was a lot of cleanup of the data. [Stutters] Uhm... the geographic locations often weren't right. There was just a lot of work that went into working with that list. And then, they were able to provide the 2014 disproportionality analysis, but with the full intent that once we had the uhm, the list of facilities that had been approved for operation under the challenge firm and under the new permit, they would then conduct the same analysis. But I say "the same" kind of in quotes, because if there were any lessons learned or any tweaks that the new data provided, that they were free to kind of have a... uhm the best analysis possible. [Laughs] So, you know, again, Dr. Johnston can refresh my memory as to precisely what tweaks are made there, but I don't want to state that the only difference is in the results, because there was an opportunity to have a fresh look at the methodology. Fundamentally, the methodology was similar, but they were able to uh tweak the way they were doing things in order to do the best study possible.</p>
DR. JILL JOHNSTON:	<p>Yeah, so the major difference is there where 2055 CAFOS included in the 2014 analysis, and then for the upgraded analysis based on the... the permit list, there were 2029. So, you know, that was a major change for uhm facilities that did not undergo permitting or ones that where their permit expired and we did not have any</p>

	evidence that they were going to renew their permit. What we tried to do in the 2014 analysis was use this [U/I] available knowledge we had about which uhm... uh CAFOS to include. So we did get some additional information from the state about which ones were not operational, and which ones may have had permits that had dual animals housed there. So, so we did make some adjustments in this first paper, to try to... anticipate uhm what would be included under the demo permit. But in terms of the methodology, the analysis and in the tables provided, are the same. Uhm, we changed the figures a little bit to try to make them look nicer and we also, there were 20 left in counties excluded, and that was using the same criteria as we did before. So there was just one additional uh county that met the criteria.
MARY O'LONE:	Okay. Yeah. Uhm, okay. Well, that was a good explanation. So can we now turn to the... we're going to work from the 2014, 'cause that's what, you know, what we have in front of us. And maybe when you made the changes, some of our questions will be answered. But I just, I wanted to start on page 11 just with Figure 1. And... I have no questions about that one. Now I'm moving on to Figure 2. Okay, so it says the percent of population living within three miles of an IHO in relation to the percent of people of color. Is that the percent of the population in the green study area? Or the...
DR. JILL JOHNSTON:	Yeah, so all of the data and all the tables and figures provided here are uh from the study area.
MARY O'LONE:	Okay. So Figure 3. Figure 3. So, in the... in the complaint, Figure 3 is described... on page 35 in paragraph 133. There's a-- and I guess the... what... what we are, what we're asking you, Dr. Johnston, is... Well, I guess, do you agree with, that this statement states what your study shows and what that figure shows, I guess?
DR. JILL JOHNSTON:	Can you read the statement please?
MARY O'LONE:	Oh, you don't have it? I'm sorry. It says--
DR. JILL JOHNSTON:	No, I don't have it.
MARY O'LONE:	"As shown in the following figure, which depicts the relationship of industrial swine facilities to the racial and ethnic composition of North Carolina, swine facilities are clustered in communities of color."
DR. JILL JOHNSTON:	Yes. I would agree with that statement.



MARY O'LONE:	Okay. Uhm, we are flipping.
DR. JILL JOHNSTON:	And that's just a note [U/I] actually on the updated reports and here we kind of umh, they have three categories of people of color. Anyway it is displayed umh more closely to how we conduct the analysis in the updated report.
MARY O'LONE:	What do you mean? I am not sure I understand what you mean?
DR. JILL JOHNSTON:	Like so we actually had like six umh... six categories that we assigned census blocks into six racial categories. Uhm, and on this map, but its original figure in order to simplify it we just show three categories under 20 percent, or 20 to 40 percent, and then above 40 percent. Uhm...
MARIANNE ENGELMAN LADO:	Uhm, we... that was real hard to hear. Can you say that again?
DR. JILL JOHNSTON:	I'm sorry. So umh... umh a mixed figure, the Figure 3... So we have the three categories just that we simplified for purposes of displaying information, which was less than 20 percent, 20 to 40 percent, and greater than 40 percent. Uhm, whereas in the updated figure we show all six categories umh that we use for our analysis. So it's... it's just a minor point and it doesn't impact my interpretation of it.
MARY O'LONE:	Okay.
DR. JILL JOHNSTON:	But... but just note better what we are discussing the changes between the two versions. That was one we just changed the way we displayed the information.
MARY O'LONE:	Okay.
DR. JILL JOHNSTON:	In the updated version it is Figure 2 on Page 11.
MARY O'LONE:	Yeah. Okay. So now we are moving on to Table 2. Uhm, so Table 2 is there is... it's... table 2 is discussed in a handful of paragraphs in the complaint. Uhm, so I guess I will just read them to you umh... one at a time. So this is paragraph 132 on page... I don't know what. Wait, 13. Page 13. No, it's not. What I am talking about? 35. It's paragraph 132 on page 35 of the complaint and we are talking about Table 2 on page 13 of the study. Paragraph 132 says analysis of the population statewide yields consistent results. The

	proportions of African Americans, Latinos and Native Americans state wide living within three miles of an industrial swine facility are 1.4, 1.26 and 2.3 times higher than the percentage of non-Hispanic whites respectively. Table 2, the disparities are also statistically significant. Is that right? Yeah. Table 2.
MARIANNE ENGELMAN LADO:	I would note that that refers to both Page 6 and Table 2 of the report.
MARY O'LONE:	What does?
MARIANNE ENGELMAN LADO:	The paragraph 32 or 32.
MARY O'LONE:	So basically you are sort of quoting Page 6. Is that what you are saying?
MARIANNE ENGELMAN LADO:	I believe so.
DR. JILL JOHNSTON:	Yeah, so that statement uhm, I think, maybe actually doesn't draw on Table 2 that we have shown here which is just for the study area. I think those numbers that you read for uh the whole state?
MARY O'LONE:	Okay.
DR. JILL JOHNSTON:	So state wide analysis where we don't exclude any areas.
MARY O'LONE:	Okay. So which table... so which table should this... or... is this about? Or where are those results displayed?
MARIANNE ENGELMAN LADO:	It's the first paragraph on Page 6.
MARY O'LONE:	Okay, we calculated--
DR. JILL JOHNSTON:	[U/I] I am not sure if all the tables from the statewide analysis were included in the documents sent to you. Uhm--
MARY O'LONE:	Oh, you mean... okay. So... so the document dated August 29, 2014, Industrial Hog Operations in North Carolina, what you are saying is there is results discussed in the text that aren't displayed in the table or... figure?

DR. JILL JOHNSTON:	Yes. So all the tables in the figures uhm provided in this document are just for the analysis where we restricted it to the study area.
MARY O'LONE:	Okay.
DR. JILL JOHNSTON:	[U/I]. But there was a parallel analysis that didn't restrict... uhm that included all counties [U/I] in the state of North Carolina. And so these results uhm included in the paragraph from Page 6 are from that analysis that uses the entire population.
MARY O'LONE:	Okay. Okay.
MARIANNE ENGELMAN LADO:	And just to draw your attention to paragraph 131 and 132 of the complaint, 131 says analysis based on a study area that excluded the state five major cities in Western County. And it goes on to give the numbers. And then paragraph 132 by contrast says analysis of the population statewide yields consistent results. So paragraph 131 is about the data in the study area and paragraph 132 says it is consistent, but here are the numbers for the state... for a statewide run. Is that correct, Jill?
DR. JILL JOHNSTON:	Yeah...
JERYL CONVINGTON:	So... so 131 again is just for the state? Or statewide?
MARIANNE ENGELMAN LADO:	Paragraph 131 says the analysis--
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MARY O'LONE:	Is the study--
MARIANNE ENGELMAN LADO:	-- on the study area for the state
MARY O'LONE:	Okay.
MARIANNE ENGELMAN LADO:	-- but only the study area within the state. And that is what the tables reflect. Paragraph 132 the very first sentence says analysis of the population statewide yields consistent results. So that's... it's with those numbers 1.4, 1.26 and 2.39 which are the same numbers that appear at the top of the report on Page 6 first paragraph is the statewide numbers not just the study area.

MARY O'LONE:	Okay. So the reference to Table 2 is not because those numbers come from Table 2 but because Table 2... wait. What is it? That is not about, I was going to say--
MARIANNE ENGELMAN LADO:	Directions to Table 2 should probably be like C also. I think Table, uh... I'm sorry, page 6 is the actual support where is Table 2 as uhm Dr. Johnston says seems to be only the study area.
MARY O'LONE:	[U/I]? In the original?
JERYL CONVINGTON:	[Whispering: Well, expiration [U/I] within three miles [U/I] IHS and more than three miles. [U/I] study are [U/I].]
MARY O'LONE:	Okay. So I am sorry, so this paragraph is basically saying that the statewide results are consistent with Table... that the... the proportions are consistent with Table 2, which is about the study area.
MARIANNE ENGELMAN LADO:	Right. Dr. Johnston, is that right?
DR. JILL JOHNSTON:	Uhm, yeah I'm just, okay I'm looking. Yes. Yes. Yeah, I opened up the, I found the document. So Yes. So 131 is the proportion matches what is on Table 2. And then 132 is referring to the statewide analysis of no [U/I] areas, in which... which we did not show the table in this report.
MARY O'LONE:	Okay. Okay. All right now we are going to go to... I think uhm so Paragraph 140 in the complaint I think is sort of a repeat of that. It is the statewide proportion of African Americans living within three miles of an industrial swine facility. Statewide is 1.4 times higher than the proportion of non-Hispanic Whites and that cites Table 2 and page... uhm... Table 2 and page 6. Table 2, page 6.
DR. JILL JOHNSTON:	Yes. I believe that is the uhm that's the same pattern where the one that matches the tables. Uhm--
MARY O'LONE:	Okay.
DR. JILL JOHNSTON:	In this report that is the study area and then 140 goes to the statewide analysis.
MARY O'LONE:	Okay. 142. Okay. So the next paragraph then is 142. We are having the same issue here or the same thing going on. African Americans make up a larger portion... proportion of the population living near industrial swine. Then the proportion of the population

	living within three miles away from any facility, the disparity... so...
DR. JILL JOHNSTON:	So I believe that uhm [U/I] right, the 20 percent of African Americans compared to 13 percent of non-Hispanic Whites that living three miles of a CAFO?
MARY O'LONE:	I am sorry. Were you quoting again from Paragraph 132?
DR. JILL JOHNSTON:	Well, weren't you talking about 142?
MARY O'LONE:	Oh, 142. Okay, thank you.
DR. JILL JOHNSTON:	For the uh... [U/I] those arrive at the numbers that I believe that... the reference is appropriate.
MARY O'LONE:	Okay. And the statement is accurate?
DR. JILL JOHNSTON:	Uhm-hum.
MARY O'LONE:	142? Okay. Now we are moving to 148.
DR. JILL JOHNSTON:	Uhm, yeah that's the same as in reference to the statewide analysis.
MARY O'LONE:	Okay. And that's accurate?
DR. JILL JOHNSTON:	Yes.
MARY O'LONE:	Okay. And 1... 150. That's 202? This is a... trying to [U/I]...
DR. JILL JOHNSTON:	Yes. I believe uh... that is correct.
MARY O'LONE:	Okay.
MARIANNE ENGELMAN LADO:	So... so I'm just saying, I'm just trying to reach back and Dr. Johnston, you may remember as well uhm, these references to Table 2, there are different ways of looking at them and one may be that we met kind of... the... the report at 6 provides the information. It's more like a see also Table 2 with consistent results. But... but the other way of thinking and... I remember that there were lots of charts and tables with the numbers and I think and again, Dr. Johnston, you may remember better than I, uhm we may have taken some charts and tables out simply to make it all more presentable because it was kind of too long and too much

	and if we did uhm could this Table 2 have referred to statewide analyses? I just don't remember if there was another draft with more tables. Uhm, but I seem to have some vague recollection and if so that it means it is kind of a typo but again is also perfectly consistent but you know, we may have just thought it's also supported by Table 2.
DR. JILL JOHNSTON:	I think you are correct that some variation of all these tables included anything from the study area analysis and then a repeat, you know, it may be like... you know, a 2a and a 2b or something I don't know exactly how we laid it out that compared the study area to the whole state analysis. So it could have drawn on that and...
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MARY O'LONE:	Maybe... this... this Mary...
DR. JILL JOHNSTON:	And [U/I] exchange, they tried to not have quite as many tables.
MARY O'LONE:	Well I'm... I'm... this is Mary. I am beginning to think maybe it would be a good idea to send all the tables in. Uhm, because I know that, you know, there were some questions here about numbers and stuff so.
MARIANNE ENGELMAN LADO:	Well, we can certainly look for any tables that we have that included the statewide analysis such as the piece here uhm--
	//
MARY O'LONE:	Because--
MARIANNE ENGELMAN LADO:	-- just to see you know, if we have something. Also, you know as these tables were being developed Dr. Wing and Dr. Johnston may have gone back to the data and you know, and found that there was a mistake when we include [U/I] permits or we included something else that had to be cleaned up. So I don't want to send over stuff that isn't correct, isn't final. Right? But uhm... because... because they worked on this and as I said before there was a lot of work going into uh refining the data and then refining the methodology. So but we can look to see if there were... I do... I do have a recollection that we may have had some near final tables that uh might have included the statewide data and we just thought it was too much. So if we have that we can certainly send that over and we will look for that. I will put a star next to that as a "to do."

MARY O'LONE:	All right. Thanks. And just asking, so the tables they will have headers on them, they're descriptive like the ones that are here. So Table 1 is--
MARIANNE ENGELMAN LADO:	I am not sure we are looking for a totally free standing table or as Dr. Johnston said it may have been this table with an additional column and we just thought it was too confusing to have all of that information in one time. It's that kind of thing, so uhm, so it would have a header and you know, if it were in the near final version but I just don't, you know, it's a couple of years ago and uhm by the time the revisions came along it was more like using the 2014 version as a base so some of these questions weren't revisited again. So it was two years ago and, and uhm... I'd have to look back and, you know, and confer with Dr. Johnston. But I think there may be something that we can send over to you with the statewide data.
DR. JILL JOHNSTON:	Yes. We may have to uhm... format I am not sure all the information ended up in this final format but uhm, but the... but the [U/I] there were data available.
MS. ENGELMAN LADO::	Okay. All right. So turning back--
MARIANNE ENGELMAN LADO:	Just to be clear as I read this and... and Mary you can correct me if you are looking for something that I am not thinking about or Dr. Johnston, correct me if I am wrong about this but this data is actually in... on page 6. It's just that it is not presented in you know, in Table 2 as a reference from Table 2 and that is what is confusing. So if we can find that so it... I'm happy to do that. It doesn't... Dr. Johnston, does it uh does it change any of your conclusions or is there anything different or new about that data?
DR. JILL JOHNSTON:	No. I think it is consistent with, with what we uhm with the tables that we show and you know, the numbers on the text and what seems to be on this complaint form uhm are correct.
MARY O'LONE:	Okay. So you know, we wanted to, I'm looking here at the clock. I's 5 after 4 but we wanted to you know, mark through sort of some of these paragraphs to have you, you know, do what you are doing so far and saying yes, that is an accurate characterization of this table. And then, you know, after that we have a handful of other questions. Uhm, but I'm wondering if there is an easier way to do this than just doing it on the phone here. Uhm, so that we can move on to the other kinds of, the other questions that we have. Did you, Dr. Johnston, did you write... did you write these paragraphs that are in the complaint and or did you... and/or did you... did you write them? That is the first question.

DR. JILL JOHNSTON:	No. I did not write them.
MARY O'LONE:	Okay. Did you review them all before they you know, came to EPA?
DR. JILL JOHNSTON:	I reviewed a version of them. I can't say whether it was a final version or not.
MARY O'LONE:	Okay. Yeah. Here is what I am trying to do. Marianne, and I think you are probably trying to see what I am trying to do here. I just want to make sure that uhm... that... that she's, that Dr. Johnston, so she didn't write it. That... that she does agree with what it says. And that's all I am trying to do is make sure that now when we use it, you know, when we... if we are going to use the language here that is, that we can adopt it. I am just trying to cross that T here.
MARIANNE ENGELMAN LADO:	Let me propose this uhm since Dr. Johnston-- we didn't know that this is what you were going to do and Dr. Wing also reviewed these uhm these paragraphs uhm and like you know, we may have... we may have six typos after [U/I] reviewed it, he... he definitely reviewed the final version. Uhm, but perhaps since we didn't expect this line of questioning uhm, and Dr. Johnston has a copy of the complaint after this phone call, either... if you can identify which paragraphs you want her to review.
MARY O'LONE:	Sure.
MARIANNE ENGELMAN LADO:	She can look at them and we can follow up and if there are any points of divergence of course Dr. Johnston should say so uhm on those paragraphs. But why doesn't she have time to review them and... and she can get back to us.
MARY O'LONE:	Yes. I think that is more efficient. Okay. Then--
MARIANNE ENGELMAN LADO:	Is that okay with you, Dr. Johnston?
DR. JILL JOHNSTON:	Yes. I can do that.
MARY O'LONE:	Okay.
MARIANNE ENGELMAN LADO:	Which paragraphs is it or are... you wanna email them?



MARY O'LONE:	We are going to email it. Yeah. We'll have to email you the list. Okay. The next question I think we've already gone it... it hasn't been pub-- the study has-- now we are moving off the, you know, nitpicky thing and moving into more general questions so the study hasn't been published and you are checking, Marianne, on whether it was provided to DEQ.
MARIANNE ENGELMAN LADO:	Yep.
MARY O'LONE:	Okay. And I don't think we need to ask the next two. Do you know if this has been made public in any other way?
DR. JILL JOHNSTON:	I believe that on uh EarthJustice website.
MARY O'LONE:	On the EarthJustice website?
DR. JILL JOHNSTON:	[U/I].
MARY O'LONE:	Okay. Then maybe I will ask my next questions. Are you aware of any response or criticism or critiques of the study, you know, that are out there?
DR. JILL JOHNSTON:	I am not. And Dr. Wing hasn't shared any with me if he's reviewed something.
MARY O'LONE:	Okay. Marianne, have you?
MARIANNE ENGELMAN LADO:	I am thinking. To be... to be as... as uhm complete as I can but I'm racking my brain and I... I don't think I have received any critique or response to the disproportionality analysis.
MARY O'LONE:	Okay. Well you know, if you do come across anything let us know. Okay ne-- now I wanted to talk about the 2000 study and mainly it's the differences between the 2000 study and the 2014 study. And, you know, sort of why those changes occurred if you know the answer. So... one of the changes was--
MARIANNE ENGELMAN LADO:	I am sorry before we go into that.
DR. JILL JOHNSTON:	Yeah!

MARIANNE ENGELMAN LADO:	Alexis just pulled up the uhm our website and it looks like the disproportionality analysis is available through our website. Oh, or on our website? Where? North Carolina Policy Watch.
MARY O'LONE:	Okay.
JERYL CONVINGTON:	Complaint or the study?
MARIANNE ENGELMAN LADO:	The study.
JERYL CONVINGTON:	Okay. Good, okay.
MARIANNE ENGELMAN LADO:	Okay, I don't know if you heard that. The 2014 analysis seems to be available on North Carolina Policy Watch. We just... also so you know, this is a little bit of an-- of an aside from this interview but we have not generally made available the declaration uhm to the press or other people. We... we in general when we have gotten inquiries we will call the [U/I] that might have information responsive to an inquiry and ask whether it's okay if we share their declaration even for people who did not ask to have their information anonymous, submitted anonymously, and as you know there was... that... there was... that category as well but we are, you know, respectful of people's uhm [U/I] and concerns about retaliation so we are very careful not to just throw everything up on the website. And that doesn't run to the disparities analysis but we haven't just put all of the exhibits up on our website or in any other place so... that... that's part of the backdrop as to why I'm not clear as to where we sent what.
MARY O'LONE:	Okay. Did North Carolina Policy Watch just pick this off of your website? So I'm wondering, you said you haven't received any critiques. I guess I am wondering or criticism or, you know, anything not off the wall. Could it have gone into North Carolina Policy Watch?
ELIZABETH MCLAUGHLIN:	This is Elizabeth. North Carolina Policy Watch picked up the complaint from the center's website. And I'm not recalling any discussion that I had with them uhm but it would not surprise me at all because they 're... they are investigative journalists that they would dig into studies referencing the complaint and share those with the public. And so that is the 2014 study uhm... I mean with not confidential... it is not surprising that they listed it on their website.

MARY O'LONE:	Okay.
MARIANNE ENGELMAN LADO:	And Dr. Wing may have been talking to the members of the public and providing copies if it wasn't confidential.
MARY O'LONE:	Okay.
MARIANNE ENGELMAN LADO:	I am pretty sure that they had also posted the 2000 report along... along how many years ago.
MARY O'LONE:	Right.
MARIANNE ENGELMAN LADO:	So it could be also that they just think that's Dr. Wing's work so.
MARY O'LONE:	Do you have a relationship with them or do they just pick your stuff up and they put it up there? Because what I'm wondering is whether they were on the receiving end of anything legitimate as far as the critique.
MARIANNE ENGELMAN LADO:	I do, we do have a relationship with them uhm, a cordial relationship with them so we could find that out if you are interested in it or...
MARY O'LONE:	Yes. We, you know, are interest-- we are interested in it. I mean we are going to look too but we don't know what, you know, if they are going to curate their site or what happens. So we would be interested if they happen to have anything. Okay.
MS. ENGELMAN LADO::	We'll find out.
MARY O'LONE:	Okay. Sure. Great. Thank you. Uhm, okay so circling back, Dr. Johnston, to the 2000 study and some of the changes in the methodology from that study to the 2014 study. One of the things that was discussed in the 2000 study had to do with well water. And looking at those that were... yeah, somehow including those and now I can't remember because I'm... I'm looking for it now uhm that that was taken into account but that wasn't discussed in the 2014 study.
DR. JILL JOHNSTON:	Well uh my understanding in this report they looked at sort of three different vulnerable populations. One being racial and ethnic minorities. One, uhm, you know looking at people living in poverty.

	And the third, looking at people who relied on well water.
MARY O'LONE:	Right.
DR. JILL JOHNSTON:	So being that all three variables were not included in one model that they were sort of three parallel analyses that looked at the correlations between those different characteristics of the population and proximity to [U/I] CAFOs.
MARY O'LONE:	Okay. And the well water component wasn't done in 2014. Do you know... is there a reason--?
DR. JILL JOHNSTON:	Uhm. Yeah, I mean specifically we can prioritize looking at racial and ethnic disparities in that analysis. Uhm, and just this limited capacity focused specifically on that issue but also for the 1990 census included information about people's drinking water sources. But to the best of my knowledge that was the last census that included that data, so if we wanted to look at data in uhm... you know, on the... in the 2020-- sorry, the 2010 census. They did not include questions asking about drinking water.
MARY O'LONE:	Okay. All right. Great. Thank you.
MARIANNE ENGELMAN LADO:	If I could, this is Marianne. If I could interject. Uhm, so because this was not a general study for the general public but a study to test whether there was a racial disparity related to the general permit, uhm the request was to examine that question: whether there are disparities in terms of race and ethnicity. So you know, there is a difference between doing a study uhm you know, for the general inquiry of you know, uh a vulnerable populations and the relationships to CAFOs and looking into the relationship on the base of race and ethnicity and whether civil rights were violated. So it was really a question as to whether or not there was a disparity recognizable under the civil rights law that you know, that Dr. Wing and Dr. Johnston generously took up. That you know, that... that's a big part of it here.
MARY O'LONE:	Okay. Yes. I understand what you are saying, Marianne. So the next question has to do with the distance and we talked about it a little bit earlier. I think the 2000 study did one in two mile buffers uhm... and now this one goes to three. So can you sh-- can you... and the next one has to do with... the next question I have has to do with the measurement. The idea of moving off the buffer zones around the set... the block group area to using the centroid. So maybe it is all related but if you could explain that.
DR. JILL JOHNSTON:	Yeah. For me the difference between the sort of spatial approach that we took, we made two different reports. Is in the 2000 report

	<p>they relied on block groups. And so here there was a little over 4000 block groups included every region in the study area. And so with our report we have over 200,000 blocks in our study areas, so the size of the blocks and the size of the block groups are very different uhm especially in rural areas because they sort of... [U/I] to have you know, similar types of population in terms of count in these different census like geographic areas, and so rural areas as a block group tend to be very big and so they were looking at... the... the principal analysis in this 2000 report wanted to see if there was any CAFO in the blocks group. Uhm, and then after a sensitivity approach because, you know, you can have a CAFO right in the corner of the block group and so that could impact its neighboring block groups as well or a portion of that population. So as a sensitivity approach they also sort of looked at sort of one mile around the block group and then two miles around the block group. And it included you know, the category of whether or not it was near a CAFO, uhm were the [U/I] based on those parameters. Uhm, so in contrast when you look at blocks I don't remember the exact number but you know there is a little over 2000 CAFOs in the state so if we were just to find exposure based on whether there was a CAFO in a block you know, that went down to like fewer than 1000 blocks. Because it is just much smaller. And so for this analysis in... when you are using blocks as your unit of analysis then you need to consider, uhm it really it's important to consider a buffer zone around it because we know how chemicals can travel sites. And so, you know, using evidence, a lot of papers that have been published since 2000... uhm, we put a... relied on a three mile buffer uhm for the 2014 report. But that is the... the... the spatial scale of the two are just very different and so that's partly the difference in what kind of buffers were considered.</p>
JERYL COVINGTON:	<p>Let me ask you once, and this is Jeryl. So, I... I'm understanding that you all looked at the block group and you are still considering I guess the travel, the air emissions of H2S. You all did an overlay on this one as well to come up with that distance?</p>
DR. JILL JOHNSTON:	<p>On the 2000 report?</p>
JERYL COVINGTON:	<p>Yes.</p>
DR. JILL JOHNSTON:	<p>So in terms of one and two mile buffers I cannot specifically speak to.</p>
JERYL COVINGTON:	<p>Okay.</p>

DR. JILL JOHNSTON:	Uhm, and I believe the data presented here in the tables uhm, specifically include the buffer zone, but that was used as uh... a sensitivity analysis so if we included these buffers or changed our definition of exposure with the patterns that need to be changed. And from my understanding of this report you know, the patterns were consistent but I believe the tables show... uhm rely on the definition of that block group it [U/I] if there's a CAFO in that block group.
JERYL COVINGTON:	Okay, I'm gonna to repeat that. So you are saying the block group is exposed if there is a CAFO in that block group?
DR. JILL JOHNSTON:	Yeah. That was the primary definition of the analysis from my understanding in this 2000 report.
MARY O'LONE:	And the one and two mile buffer around the block group... was not that populations were measured one and two miles outside that... block group but for some other reason.
DR. JILL JOHNSTON:	[U/I]. Yeah. So let's say... so, perhaps there would be no CAFO in a block group.
MARY O'LONE:	Okay.
DR. JILL JOHNSTON:	And if you do a one mile buffer around it there would be a CAFO, so and in that condition you would include that block group as if population was exposed to a CAFO. Uhm... and I never [U/I] I assume because it is a block group that's using like around-- one mile around the buffer rather than one mile around a centroid.
MARY O'LONE:	Yeah.
JERYL COVINGTON:	Because you know, block groups are so much bigger so we wouldn't get much outside the border from that definition.
MARY O'LONE:	Dr. Johnston.
DR. JILL JOHNSTON:	Yeah.
MARY O'LONE:	Just to... just to make sure I have it uhm and is clear. When you say you would include that CAFO that is in the buffer up to two miles away in exposure that would be in the sensitivity analysis but not in... I don't know what you call it... but the core analysis?
DR. JILL JOHNSTON:	Yeah. That's how... you know, I don't want to say 100 percent because I did not make these tables but as I uh read this paper and see how I understand the data presented is uh... they are not using

	the buffer definition. They're just using the category of whether or not there is any CAFO inside the block group.
MARY O'LONE:	Okay. Okay. Anybody else? Alright, so the next question and Marianne, I think this probably goes back to what you already said but... why was poverty omitted this time?
DR. JILL JOHNSTON:	Yeah, I think it goes back to the same point is that we were looking at criteria that were considered under the Civil Rights Act.
MARY O'LONE:	Okay.
DR. JILL JOHNSTON:	And so, you know, poverty not being one of those classes considered, we didn't include it in the analysis.
MARY O'LONE:	Okay. Are there any other differences that you by chance know about between the 2000 and the 2014?
DR. JILL JOHNSTON:	Yeah. I mean... you know how we assigned which people were exposed. [U/I] this analysis include commercial CAFOs in the state of North Carolina whereas the 2014 we were restricted to those CAFOs that are covered under the general permit that did not include those under the individual permit or under [U/I].
MARIANNE ENGELMAN LADO:	Okay. Can you, Dr. Johnston, explain what you mean by how the... how people are assigned. Are you referring to the use of quintiles and can you explain what the significance of that is?
DR. JILL JOHNSTON:	Yeah. [U/I] here, you know, it was... you're considered to be exposed to a CAFO if you lived in a block group with a CAFO, you know, whereas in our... in our 2014 report you are considered to be exposed to a CAFO if the centroid of your block is within three miles of a CAFO.
MARY O'LONE:	Right.
DR. JILL JOHNSTON:	But yes, here after we uh... the... we took a similar approach to using the categorical variables to account for non-linearity in the relationship between you know, the racial composition and proximity uhm... current exposure to CAFOs, but in the 2000 analysis they divide the groups so that in each of the five groups there is an equal number of block groups in it. So that is how they defined their cut off points. So for example like, the... lowest quintile, you know, of 2.3 percent uhm, the highest quintile is more than 44 percent people of color. Whereas in the updated approach we used partly just uhm... because we thought it was a little bit more intuitive and easier to understand we categorized uhm the percent people of color into equal... like, equal percentages. Uhm,

	so our reference group was zero percent people of color because there was a high percentage of population where they lived in blocks with no people of color and then divided it from you know, more than 0 to 20, 20 to 40 in those groups of 20 percent uhm, because it... it's a little bit... as in easier to communicate uhm rather than having to talk about, you know, this quintile versus that quintile. Uhm, and also because we are able to look at, uhm... you know, these... has this block [U/I] majority of people of color.
MARY O'LONE:	So Dr. Johnston, the... just to follow up on that, so that if you had used quintiles it would have... would you... it would have been difficult to say anything meaningful about the effects of living in a over 60 percent versus living in over 80 percent people of color community but using your methodology you could get more granular on that basis. Is that right? I didn't hear the answer.
DR. JILL JOHNSTON:	I'm sorry. Yes, that is correct.
MARY O'LONE:	Okay. Okay. Anybody else have any other questions? Comments? So the 2000 study uh... and you may not able to answer this. But are you aware of any criticism of that study? Because I think that... was-- wasn't that submitted in one of the general permit processes? So I'm wondering if it got more play in the outside world and, you know, what reaction there may have been to that that you are aware of. Critiques or anything?
DR. JILL JOHNSTON:	[U/I] it was published in [U/I] House Perspective? [U/I] you know, a high quality journal in environmental health [U/I] sent through the peer review process, uhm but I can't speak to any critiques of it.
MARY O'LONE:	Okay. All right. See where are we now? Uhm, we're... close to wrapping up here. We have a general, well one... one last... one question here is the generic one that all experts get asked and you probably see it on TV which is the, you know, were you compensated for doing this study?
DR. JILL JOHNSTON:	No.
MARY O'LONE:	Okay. Uhm, then the other question I have, I heard somebody laughing. Uhm... uh... we're wondering if you had worked with Dr. Wing on any other uh studies related to swine and... in swine farms in North Carolina?
DR. JILL JOHNSTON:	Well, I worked with him and also uhm Dr. Getjay [PH] around an analysis of hydrogen sulfide concentration near middle schools in Eastern North Carolina, which was recently published.



MARY O'LONE:	Okay. I think that was in your CV or was referenced in your CV. Is that right?
DR. JILL JOHNSTON:	Yes.
	//
MARY O'LONE:	Do you-- ah...
MARIANNE ENGELMAN LADO:	And I was just going to interject here that that work and... and Dr. Johnston's experience working on studies generally community based [U/I] studies and other work in the community on which she might give some opinions about adverse impact of swine CAFOs could be subject to another interview as we kind of went back and forth on. Uhm that wasn't kind of the premise--
	//
MARY O'LONE:	Right.
MARIANNE ENGELMAN LADO:	-- of interviewing with you but she has generally said that you know, if she knows in advance she'd be more than happy to talk to you about that body of work and the research associated with it.
MARY O'LONE:	Okay. That would be great. Did the hydrogen sulfide study get submitted with the materials you sent in April, Marianne?
MARIANNE ENGELMAN LADO:	Yes, it is the study that is... it was... it was confidential at the time but it has since been published.
MARY O'LONE:	Okay.
MARIANNE ENGELMAN LADO:	So it is... it is in exhibit but it also says it is confidential.
MARY O'LONE:	Okay. So...
MARIANNE ENGELMAN LADO:	It was prepublication at that point.
MARY O'LONE:	Okay. We have a... I'm trying to fin-- do we... can you send us the publication copy just to make it easy?

MARIANNE ENGELMAN LADO:	Yeah.
MARY O'LONE:	For us, the... the published version? That would be great. Uhm, let me think did we have any other questions right now? [U/I]? I don't think so. Okay. Is there anything else that you wanted to add, Dr. Johnston?
DR. JILL JOHNSTON:	Uhm, no. No, I don't believe so I think if you had a chance to review our updated report then I am happy to answer any questions or offer any clarifications related to that but it... but it... but [U/I] are pretty parallel structure to what you have. We just refined which CAFOs were included in the analysis.
MARY O'LONE:	Okay. And so, yeah and I'm kind of thinking, Marianne, since I haven't had a chance to look at that you know, how we wanted to send you the paragraphs that we wanted to do I have a feeling we are going to have to... we have to fix it because we have to switch it now to the... to the newer study. So does the newer study... what you submitted, Marianne, is it going to include, is it just a new study or do you have a cover letter that is like the complaint that goes through and, you know, here is the... here's layman's, you know, description of what is in this report?
MARIANNE ENGELMAN LADO:	It is a little bit of a hybrid in the sense that we have a complaint and we are filing additional submissions--
MARY O'LONE:	Uhm-hum.
MARIANNE ENGELMAN LADO:	-- in support of the allegations in the complaint. We don't amend the complaint and say this goes to Paragraph 132. We rather are just submitting additional documentation in support of those allegations. So there is a short cover letter but it is not... it's not lengthy and, you know, it doesn't go into which paragraphs that it supports.
MARY O'LONE:	Okay. Okay.
MARIANNE ENGELMAN LADO:	The other thing I was thinking might be useful since we are ending a little bit early which is good, is just to say a little bit more about Dr. Johnston's experience and, you know, and background and expertise on methodological issues uhm, and you know, and courses taught or research done or... you know, you have her CV and I think uhm Jeryl Covington asked some questions earlier on, uhm but if you have any questions about that or I would just open it up to Dr. Johnston to say about a few more words about whether

	you have taken any courses or have any special training or expertise on methodology in epidemiology... that would help.
DR. JILL JOHNSTON:	Uhm, yeah. For both a starting point this... you know, this is not submitted through the peer review process but uhm every publication that I have now offered for the American Journal of Public Health that sort of uses a similar approach to racial disparities analysis is around a different topic looking at waste water uhm, [U/I] in south Texas but not related to industrial animal operations. Uhm, but you know, went through the peer review process used [U/I] level data and a very similar approach to that. So that is uhm, you know, some of that sort of expertise and credentials in the peer reviewed literature that... that is a similar method to what we are doing here in this paper. You know, but also yes, I mean I do have fairly extensive coursework in these different types of regression modeling, epidemiological study design and also just quantitative data analysis processes like [U/I], you know in biostatistics and epidemiology and also in econometrics. Uhm and... and then yeah, had a two year post doctoral fellowship uhm in environmental epidemiology and [U/I] taught a class with Dr. Wing, specifically on community based epidemiological methods and environmental justice.
MARY O'LONE:	Okay. Well thank you. Actually that was helpful particularly the reference to west Texas or the Texas wastewater.
	//
DR. JILL JOHNSTON:	And I also [U/I] an article uhm, and I can send it to you uhm that's also included in my CV and... yeah, it may be helpful I uhm... I did do some critiques on that from the oil industry but nothing that was really methodological driven. Uhm... but yeah, that can uh... it's a reference in the peer review literature that takes a very similar approach to how to analyze data in a racial disparities analysis as this one does.
MARY O'LONE:	Okay. Is it... is it easy for you to send us that report too? Because I think that would be helpful and then--
DR. JILL JOHNSTON:	Yes. And [U/I] send it to Marianne and then... in her package she can share it with you.
MARY O'LONE:	Great. And the oil and gas industry uh... comments or response or whatever you want to call it, uhm... how... like, what form did that take?
DR. JILL JOHNSTON:	It came out of a report that was shared with me.

MARY O'LONE:	Can you, would you be willing to share that as well?
DR. JILL JOHNSTON:	Yeah. Let me... let me review it but uhm...
MARY O'LONE:	Okay.
DR. JILL JOHNSTON:	But probably...
MARY O'LONE:	Okay. Did anybody else have any questions at this point? Okay.
MARIANNE ENGELMAN LADO:	We... we have some follow up. We have something to give you, we'll wait for your list of paragraphs as well and exchange information and then it sounds like on... on the... uhm, the follow up report that was submitted this year as well as the more recent study as well as other studies we worked on the adverse impacts we should schedule another interview time and uh... we can try to do that relatively quickly, I think, if you'd like. So let's try to get that all underway.
MARY O'LONE:	Yes. I think we'll have to get back to you on that.
JERYL COVINGTON:	Yeah, Marianne, what I have identified so far is that you will sending after your review the background, the statewide study so that we could correlate the tables and the statewide data that you have in the reports. We will follow up on whether the questions for the paragraphs are relevant. We need to review the data that you just sent to us in April 12, 2016 to see if those questions have been answered so we'll to have to review that email. And I did receive those email submissions. So let us look at that and then we'll coordinate amongst ourselves on the follow up interview with Dr. Johnston and yourself.
MARIANNE ENGELMAN LADO:	Sure. If you could send me some dates. I think what we said on the statewide data is if there are final charts, again I think it is just a reference problem in the complaint to this Table 2.
JERYL COVINGTON:	Yes.
MARIANNE ENGELMAN LADO:	If there is another Table 2 with the statewide data or another table with the statewide data or another column in an earlier draft that is, you know, sufficiently well along I... we'd be happy to send it to you.
JERYL COVINGTON:	Okay.

MARIANNE ENGELMAN LADO:	But uhm we will... we'll look for that and get back to you on that.
MARY O'LONE:	Okay. And then the follow up we did receive in the April 12th submission the Gentry Report that is marked confidential and I think you are going to submit that after publication without the confidential reference to it?
MARIANNE ENGELMAN LADO:	Correct.
MARY O'LONE:	And then Dr. Johnston is going to do the supplementary information on the oil and gas disparity analysis literature to you and then you'll subsequently submit that to us.
MARIANNE ENGELMAN LADO:	It will be the publication as well as she is going to review the feedback to see if it is appropriate to [U/I].
MARY O'LONE:	Right.
MARIANNE ENGELMAN LADO:	Terrific. Okay. Thank you.
MARY O'LONE:	Okay. I think that is it for now. Is that it?
MARIANNE ENGELMAN LADO:	Okay.
MARY O'LONE:	All right. Thank you very much. Thank you, Dr. Johnston.
DR. JILL JOHNSTON:	All right. Thank you.
MARY O'LONE:	Okay. Bye, bye.
JERYL COVINGTON:	[U/I] hit star two [U/I] last recording.
DR. JILL JOHNSTON:	No!
MARY O'LONE:	Are you serious?

JERYL COVINGTON:	Uhm-hum. You gotta hit star two.
MARY O'LONE:	I thought it had [U/I] because I did hit star two to record [U/I].
JERYL COVINGTON:	[U/I].
MARY O'LONE:	Jesus Christ! Can we call and get them to do something?
JERYL COVINGTON:	Yeah.
MARY O'LONE:	Because we need this transcription because I stopped taking notes and [U/I] because [U/I] is all there.
JERYL COVINGTON:	[U/I].
	[END OF RECORDING]

**To:** Dorka, Lilian[Dorka.Lilian@epa.gov]; Isales, Daniel[Isales.Daniel@epa.gov]  
**Cc:** Rhodes, Julia[Rhodes.Julia@epa.gov]; Temple, Kurt[Temple.Kurt@epa.gov]; Covington, Jeryl[Covington.Jeryl@epa.gov]; Farrell, Ericka[Farrell.Ericka@epa.gov]  
**From:** O'Lone, Mary  
**Sent:** Mon 12/12/2016 12:53:18 PM  
**Subject:** RE: new draft of REACH letter

Will look at letter with your comments in mind.

I can flip it around to say this is what our investigation has found and at the end somehow say what we've said above should address your questions of X, Y, Z. And we already addressed your arguments about A & B last time.

Can you get your hotel to print out a version by hooking up your phone? Then they can print it out for you, then you fax back a markup?

Will run next version by my chain & then to Ken et al.

Mary O'Lone

Civil Rights and Finance Law Office

Office of General Counsel

US EPA

1200 Pennsylvania Avenue, NW

Washington, DC 20460

(202) 564-4992

**From:** Dorka, Lilian  
**Sent:** Sunday, December 11, 2016 9:39 PM  
**To:** O'Lone, Mary <OLone.Mary@epa.gov>; Isales, Daniel <Isales.Daniel@epa.gov>  
**Cc:** Rhodes, Julia <Rhodes.Julia@epa.gov>; Temple, Kurt <Temple.Kurt@epa.gov>; Covington, Jeryl <Covington.Jeryl@epa.gov>; Farrell, Ericka <Farrell.Ericka@epa.gov>  
**Subject:** Re: new draft of REACH letter

Hi folks I didn't get to finish reviewing the letter on Friday and unfortunately I left my mark up at home by mistake. I am now in Atlanta and unable to open the draft from the hotel computer. I will try and finish reading it on my phone but not easy. All this to say that I don't know if I will be able to send comments to you Mary by tomorrow.

Jeryl, Kurt ( and Ericka if she is back) can you share any comments you have with Mary tomorrow? Mary we also. Red to share it w Ken in region 4 once we are comfortable. I do still have the general comments about framing that I had on Friday- see below. Thx!

Thanks!

Sent from my iPhone

On Dec 9, 2016, at 9:50 AM, Dorka, Lilian <[Dorka.Lilian@epa.gov](mailto:Dorka.Lilian@epa.gov)> wrote:

I had started reviewing last version but will go ahead and review this version. I mentioned this before, **Ex. 5 - Deliberative Process**

## **Ex. 5 - Deliberative Process**

Re- reading now and after my 10 meeting and will send comments.

Lilian Sotolongo Dorka



Acting Director, EPA, Office of Civil Rights

202-564-9649

WJC-N Room 2450

**From:** O'Lone, Mary

**Sent:** Friday, December 09, 2016 9:06 AM

**To:** Isales, Daniel <[Isales.Daniel@epa.gov](mailto:Isales.Daniel@epa.gov)>; Dorka, Lilian <[Dorka.Lilian@epa.gov](mailto:Dorka.Lilian@epa.gov)>

**Cc:** Rhodes, Julia <[Rhodes.Julia@epa.gov](mailto:Rhodes.Julia@epa.gov)>

**Subject:** Re: new draft of REACH letter

All-

I have addressed Dan's comments where I had something to add.

I adopted his editorial changes.

So please review this copy.

Thanks, Mary

Mary O'Lone

Civil Rights and Finance Law Office

Office of General Counsel

US EPA

1200 Pennsylvania Ave., NW

Washington, DC 20460

(202) 564-4992

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**From:** Isales, Daniel

**Sent:** Friday, December 9, 2016 8:31:55 AM

**To:** O'Lone, Mary; Dorka, Lilian

**Cc:** Rhodes, Julia

**Subject:** RE: new draft of REACH letter

Letter with some additional suggestions/thoughts attached. I would suggest that the letter also be circulated to Jeryl, Ericka and Kurt at this time, but Lilian that is obviously your call. Thanks, Dan

Daniel L. Isales (3RC60)

United States Environmental Protection Agency, Region III

Environmental Science Center

701 Mapes Road

Fort Meade, Maryland 20755-5350

(410) 305-3016

[Isales.daniel@epa.gov](mailto:Isales.daniel@epa.gov)

**From:** O'Lone, Mary

**Sent:** Thursday, December 08, 2016 10:47 PM

**To:** Dorka, Lilian <[Dorka.Lilian@epa.gov](mailto:Dorka.Lilian@epa.gov)>; Isales, Daniel <[Isales.Daniel@epa.gov](mailto:Isales.Daniel@epa.gov)>

**Cc:** Rhodes, Julia <[Rhodes.Julia@epa.gov](mailto:Rhodes.Julia@epa.gov)>

**Subject:** new draft of REACH letter

Lilian & Dan-

Here is a new draft. I would like to get your comments by Monday morning so I can process them & get a draft out to my chain on Tuesday. I haven't circulated beyond you two (and now Julia). I don't know how you would like to incorporate the rest of the OCR team in the review. I leave that to you two.

## **Ex. 5 - Deliberative/Attorney-Client**

I will continue to re-read the incoming letter to make sure that our letter addresses all the major points, but let me know if I missed something.

FYI, the NC administration changes January 7<sup>th</sup>.

Thanks, Mary

Mary O'Lone

Civil Rights and Finance Law Office

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1200 Pennsylvania Avenue, NW

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(202) 564-4992

<draft Dec 2016 letter to NC DEQ 2016.12.08 dli.mmo.docx>

**To:** Isales, Daniel[Isales.Daniel@epa.gov]  
**Cc:** Covington, Jeryl[Covington.Jeryl@epa.gov]; Wilson, Adam[wilson.adam@epa.gov]  
**From:** Dorka, Lilian  
**Sent:** Thur 2/16/2017 5:22:48 PM  
**Subject:** RE: REACH Pictures  
Summary of Pictures in LD Folder.docx taken by I Dorka 11-14 and 15 2016 REACH CASE  
ONSITE.docx Revised 2-16-17.docx

Sorry I just realized I never sent this back to you revised ( changed Samford to Sampson Co.)  
Here it is.

Lilian Sotolongo Dorka

Director, External Civil Rights Compliance Office

EPA, Office of General Counsel

202-564-9649

WJC-N Room 2450

**From:** Isales, Daniel  
**Sent:** Friday, February 10, 2017 6:49 AM  
**To:** Dorka, Lilian <Dorka.Lilian@epa.gov>  
**Subject:** RE: REACH Pictures

Thank you very much-Dan

Daniel L. Isales (3RC60)

United States Environmental Protection Agency, Region III

Environmental Science Center

701 Mapes Road

Fort Meade, Maryland 20755-5350

(410) 305-3016

[Isales.daniel@epa.gov](mailto:Isales.daniel@epa.gov)

**From:** Dorka, Lilian  
**Sent:** Friday, February 10, 2017 6:48 AM  
**To:** Isales, Daniel <[Isales.Daniel@epa.gov](mailto:Isales.Daniel@epa.gov)>  
**Subject:** Re: REACH Pictures

Yes so sorry. I will correct.

Sent from my iPhone

On Feb 10, 2017, at 6:42 AM, Isales, Daniel <[Isales.Daniel@epa.gov](mailto:Isales.Daniel@epa.gov)> wrote:

Thank you very much. Just a clarifying question-the index references Samford County-is that correct? Is the reference to Sampson County? Thanks, Dan

Daniel L. Isales (3RC60)

United States Environmental Protection Agency, Region III

Environmental Science Center

701 Mapes Road

Fort Meade, Maryland 20755-5350

(410) 305-3016

[Isales.daniel@epa.gov](mailto:Isales.daniel@epa.gov)

**From:** Dorka, Lilian  
**Sent:** Thursday, February 09, 2017 6:07 PM  
**To:** Covington, Jeryl <[Covington.Jeryl@epa.gov](mailto:Covington.Jeryl@epa.gov)>; Isales, Daniel <[Isales.Daniel@epa.gov](mailto:Isales.Daniel@epa.gov)>  
**Cc:** Wilson, Adam <[wilson.adam@epa.gov](mailto:wilson.adam@epa.gov)>  
**Subject:** RE: REACH Pictures

Here is the index. Thanks!

Lilian Sotolongo Dorka

Director, External Civil Rights Compliance Office

EPA, Office of General Counsel

202-564-9649

WJC-N Room 2450

**From:** Covington, Jeryl  
**Sent:** Thursday, February 09, 2017 4:50 PM  
**To:** Isales, Daniel <[Isales.Daniel@epa.gov](mailto:Isales.Daniel@epa.gov)>  
**Cc:** Dorka, Lilian <[Dorka.Lilian@epa.gov](mailto:Dorka.Lilian@epa.gov)>  
**Subject:** RE: REACH Pictures

The REACH pictures from Lilian's phone have been uploaded to SharePoint in L Dorka files. Index is being developed.

**From:** Covington, Jeryl  
**Sent:** Thursday, February 09, 2017 3:46 PM  
**To:** Isales, Daniel <[Isales.Daniel@epa.gov](mailto:Isales.Daniel@epa.gov)>  
**Cc:** Dorka, Lilian <[Dorka.Lilian@epa.gov](mailto:Dorka.Lilian@epa.gov)>  
**Subject:** REACH Pictures

The REACH pictures from Lilian's phone are being downloaded. She will develop a glossary indexing the pictures.

Once this is completed, they will be shared.

Jeryl W. Covington

Environmental Protection Specialist

U.S. Environmental Protection Agency

Office of General Counsel|External Civil Rights Compliance Office

1200 Pennsylvania Avenue, N.W.|WJC-North|Rm 2524

Mail Code: 2310A

Washington, DC 20460

Desk: (202) 564-7713

Fax: (202) 565-0196

[covington.jeryl@epa.gov](mailto:covington.jeryl@epa.gov)

**To:** Packard, Elise[Packard.Elise@epa.gov]  
**From:** Dorka, Lilian  
**Sent:** Sat 1/28/2017 2:07:36 AM  
**Subject:** Re: REACH Case and ADR

Great, thanks!

Sent from my iPhone

On Jan 27, 2017, at 6:25 PM, Packard, Elise <Packard.Elise@epa.gov> wrote:

This is fine – thanks!

Elise B. Packard

Acting Principal Deputy General Counsel

U.S. EPA Office of General Counsel, Rm. 4020

(202) 564-7729

**From:** Dorka, Lilian  
**Sent:** Friday, January 27, 2017 3:08 PM  
**To:** Packard, Elise <Packard.Elise@epa.gov>  
**Subject:** RE: REACH Case and ADR

OK, will do.

Lilian Sotolongo Dorka

Director, External Civil Rights Compliance Office

EPA, Office of General Counsel

202-564-9649

WJC-N Room 2450



**From:** Packard, Elise  
**Sent:** Friday, January 27, 2017 3:03 PM  
**To:** Dorka, Lilian <[Dorka.Lilian@epa.gov](mailto:Dorka.Lilian@epa.gov)>  
**Subject:** RE: REACH Case and ADR

Let me take this to Kevin tonight and you can call Monday morning.

Thanks.

Elise B. Packard

Acting Principal Deputy General Counsel

U.S. EPA Office of General Counsel, Rm. 4020

(202) 564-7729

**From:** Dorka, Lilian  
**Sent:** Friday, January 27, 2017 1:02 PM  
**To:** Farrell, Ericka <[Farrell.Ericka@epa.gov](mailto:Farrell.Ericka@epa.gov)>; O'Lone, Mary <[OLone.Mary@epa.gov](mailto:OLone.Mary@epa.gov)>; Covington, Jeryl <[Covington.Jeryl@epa.gov](mailto:Covington.Jeryl@epa.gov)>; Isales, Daniel <[Isales.Daniel@epa.gov](mailto:Isales.Daniel@epa.gov)>; Wilson, Adam <[wilson.adam@epa.gov](mailto:wilson.adam@epa.gov)>; Packard, Elise <[Packard.Elise@epa.gov](mailto:Packard.Elise@epa.gov)>; Goerke, Ariadne <[Goerke.Ariadne@epa.gov](mailto:Goerke.Ariadne@epa.gov)>; Tommelleo, Nancy <[Tommelleo.Nancy@epa.gov](mailto:Tommelleo.Nancy@epa.gov)>; HALIM-CHESTNUT, NAIMA <[Halim-Chestnut.Naima@epa.gov](mailto:Halim-Chestnut.Naima@epa.gov)>; Temple, Kurt <[Temple.Kurt@epa.gov](mailto:Temple.Kurt@epa.gov)>  
**Subject:** REACH Case and ADR  
**Importance:** High

Hi Folks – just wanted to let you know that I just heard from Marianne Lado and Elizabeth Haddix on behalf of complainants in the REACH case that they are interested in engaging in ADR with NC DEQ. They did ask me to pass along to NC DEQ 2 things: 1) complainants also are interested in moving quickly and 2) given prior experience their hope is the NC DEQ will bring some proposed actions to the table. Next steps for me include:

- Contacting Michael Regan, Secretary, NC DEQ (he asked that I contact him directly)
- Contact Jeanne Briskin and ask her to reach out to each of the parties to begin the process.

I will also ask Jeanne to make sure to notify our office as soon as a mediator has been identified so that we can then formally toll our investigation.

ELISE: I left you a voice message on this, and will hold off contacting anyone until I hear back from you.

Thanks!!